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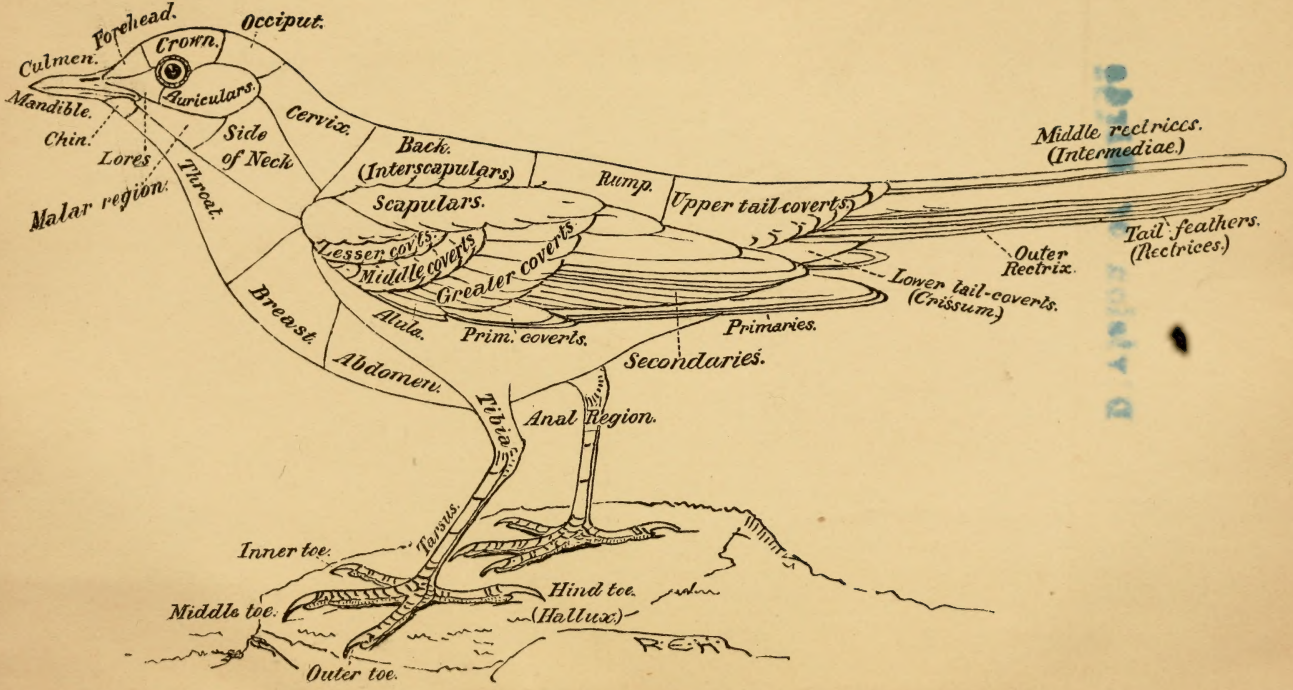
Division of Birds

A HANDBOOK

OF

EUROPEAN BIRDS.


Forehead.
Occiput.
Crown.
Culmen.
Auriculars.
Mandible.
Cervix.
Chin.
Side of Neck
Lores
Throat.
Malar region.
Back. (Interscapulars)
Rump.
Middle rectrices. (Intermediae.)
Upper tail-coverts.
Scapulars.
Tail feathers. (Rectrices.)
Lesser covts.
Middle coverts
Greater coverts
Outer Rectrix.
Lower tail-coverts. (Crissum.)
Breast.
Alula.
Prim. coverts.
Primaries.
Secondaries.
Abdomen.
Tibia.
Anal region.
Tarsus.
Inner toe.
Hind toe. (Hallux.)
Middle toe.
Outer toe.

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Birds

A HANDBOOK

OF

EUROPEAN BIRDS,

FOR THE USE OF

FIELD NATURALISTS AND COLLECTORS.

BY

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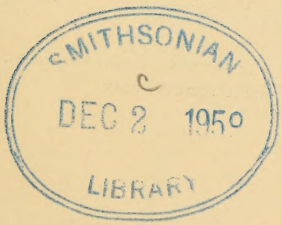

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PREFACE.

HAVING frequently experienced the need of a handy modern reference volume, descriptive of the plumage of European birds, I have been induced to publish the present work. Special care has been given to condense the subject-matter used so that it may accomplish the end of a pocket reference book.

Many of the finest bird collections in the kingdom have been carefully examined, and the best modern authorities have been consulted.

In the following pages, frequent allusions are made to the great Faunal Areas of the globe, as set forth by Dr. P. L. Sclater in 1857. These may be briefly defined as follows :—

1. The PALEARCTIC REGION, embracing Europe and the European islands ; North-western Africa (including Morocco, Algeria, Tunis, &c.), the Azores, Canaries and Madeira ; the whole of Asia, north of the Himalayas ; Afghanistan, Persia, Palestine and Asia Minor. (The western division of this region includes the Urals, Asia Minor, and Palestine, west of the Jordan).

2. The ETHIOPIAN REGION, embracing Africa generally (excepting the Mauritanian Region).

3. The INDIAN REGION, embracing Asia, south of

the Himalayas (including Sumatra, Java, Borneo, the Philippine Islands, Formosa and Madagascar).

4. The AUSTRALIAN REGION, embracing the Moluccas, New Guinea, Australia, New Zealand and most of the Pacific islands.

5. The NEARCTIC REGION, embracing North America (excluding Mexico) and Greenland.

6. The NEOTROPICAL REGION, embracing Mexico, Central America, the West Indies and the whole of South America.

The present work is intended to treat of *European* Birds only, but it is by no means easy in some cases to decide which species deserve to be thus described. Two Appendices will therefore be added : one comprising a list of strictly Asiatic or African birds which have only casually occurred within European limits ; the other a list of the Nearctic (North American) species, of which records are extant in Europe.

I have purposely omitted any description of young birds " in down." In all cases, the only really safe guide to the determination of their species is to be supplied by identifying the parent bird ; and careful observation will usually ensure the desired result.

Though, in almost every description hereafter given, some of the more peculiarly characteristic features of the various species have been indicated by the use of italic type, it is to be understood that though these are notified as having special significance in studying a particular species, care should always be taken to read through

the *whole* of the description, before arriving at a conclusion.

To a detailed description of the various plumages have been added brief notes upon the *Distribution* and *Habitat* of each species.

The dimensions given are necessarily only approximate, the influence of geographical situation, age, sex, &c., causing considerable variation.

For the convenience of those unacquainted with Ornithological technical terms, a Frontispiece, illustrating the outlines of a bird, and showing the names of the various parts, has been prepared.

The grateful thanks of the Author are due to those who have, either by the loan of books and specimens, or by their kind advice, aided him in his work, which has been no light one; but, as "in the multitude of counsellors there is wisdom," so, by the kindness and co-operation of fellow-workers, the labour has been materially lightened.

Should this little volume (with all its faults) prove of value to ornithologists, more especially to those travelling abroad, and in any small degree assist them in their studies, the aim of the writer will have been accomplished.

JAMES BACKHOUSE, JUN.

WEST BANK, YORK, *Mar., 1890.*

ERRATA.

Page 67. *Oriolus galbula.* For "tippped" read "tipped."
„ 127. *Picus leuconotus.* **Habitat.** For *D. major* read *P. major.*
„ 128. *Picus lilfordi.* For *D. leuconotus* and *D. major* read *P. leuconotus* and *P. major.*
„ 128. *Picus medius.* **Adult Male.** For *D. major* read *P. major.*
„ 129. *Picus minor.* For *D. major* read *P. major.*
„ 129. *Picus pipra.* For *D. minor* read *P. minor.*
„ 164. For *Elanus coeruleus*, read *Elanus cœruleus.*
„ 304. For *Merculus alle*, read *Mergulus alle.*
„ 316. Appendix B. For *smaragnotus* read *smaragdonotus.*

A HANDBOOK

OF

EUROPEAN BIRDS.

Order PASSERES.

Section OSCINES DENTIROSTRES.

Family TURDIDÆ.

Sub-family TURDINÆ.

Genus TURDUS.

MISSEL THRUSH.

Turdus viscivorus *Linn.*

Adult: Above, a nearly uniform greyish-brown; wings and coverts a darker brown, with pale margins, the latter tipped with whitish; tail feathers lighter than wings, outer ones tipped (inner webs) with dull white; beneath white shaded with buff on chest and flanks and covered thickly with black spots, which become more triangular as they approach the head; *axillaries white;* bill dark brown; legs and feet pale brown; irides dark brown. Length 11 inches; culmen 0·8; wing 6·0 to 6·25; tarsus 1·25.

Young on leaving nest: Head and neck fluffy, with a dappled appearance; centres of back-feathers golden-buff, with blackish edges and tips; most of wing-feathers more or less broadly margined with golden-buff; beneath buff, becoming whitish toward the chin, spotted thickly with brownish-black.

Young in Autumn: Very similar to adult, but paler above, and margins of wing-feathers whitish; beneath more generally suffused with buff.

Distribution: Resident in temperate Europe, migrating from countries where winters are severe to South Europe and North Africa.

Habitat: Woodlands and cultivated regions.

SONG THRUSH.

Turdus musicus *Linn.*

Adult: Above dark olive-brown; primaries and wing-coverts margined with golden-brown, some of latter tipped with buff; eyebrow buff; beneath buff, shading into white on abdomen; chest, sides of throat and body covered with dark brown spots or blotches; *axillaries buff;* bill dark brown, paler beneath; irides, legs and feet brown. Length, 8 inches; culmen, 0·6; wing, 4·4; tarsus, 1·15.

Nestling: Similar, but showing on upper back feathers median streaks of buff, with blackish-brown tips; underparts paler and spots smaller.

Distribution: Resident in temperate Europe, migrating from countries where winters are severe, to South Europe and North Africa.

Habitat: Woods, hedgerows, gardens, and orchards.

REDWING.

Turdus iliacus *Linn.*

Adult: Above olive brown, darker on the head; *superciliary stripe broad, whitish;* wings darker than back, but with paler external margins; greater wing-coverts tipped with whitish; beneath whitish; sides of throat and chest streaked with deep

brown; sides of body and *axillaries* deep *orange-rufous;* bill blackish, yellow at base beneath; legs and feet dull brown; irides brown. Length 8 inches; culmen 0·6; wing 4·7; tarsus 1·15.

Nestling: Very similar to adult, but streaked on the back with yellowish-white; upper wing-coverts slightly suffused with rufous.

Distribution: Winter visitant to Southern and Western Europe, breeding in Arctic regions of Europe and Asia.

Habitat: Cultivated regions, woods, commons, &c.

FIELDFARE.

Turdus pilaris *Linn.*

Adult (Summer): Head, neck, and *rump grey*, clearer on latter; centres of crown feathers blackish; centre of back, scapulars and wing-coverts chestnut; wings and tail blackish-brown, the feathers of the former having narrow pale margins; tail-feathers much darker than wings; superciliary stripe whitish; beneath, white below chest, blotched in centres of flank-feathers with rich, dark brown; entire chin, throat and chest golden-buff, spotted thickly, especially on sides of throat, with deep brown; *axillaries white;* bill yellowish at base, tipped with black; legs and feet blackish-brown; irides dark brown. Length 10·25 inches; culmen 0·7; wing 5·8; tarsus 1·3.

Adult (Winter): Dark centres of feathers on crown and forehead obscured by pale margins; spots also on under surface less conspicuous than in spring or summer from same cause; bill browner.

Nestling: Crown brown; eye-stripe buff; centre of back and scapulars streaked sparsely with buff; underparts, much as in adult; but the spots are rounder below the chest, on which they mingle into a kind of band.

Young fully grown: Head greyish, washed with olive-brown, marked with black on forehead only; back and rump much duller than in adults; on the former (and on some of wing-coverts) are narrow median lines of buff; rump tinged strongly with buff; eye-stripe and cheeks buff; beneath, rich ochre, shading into white on abdomen, and spotted with black, except on centre of throat and abdomen.

Distribution: Winters in Southern and Western Europe, and inhabits northern pine-regions of Europe and Asia during the breeding season.

Habitat: Forests during the breeding season: cultivated country or commons in winter.

RED-TAILED FIELDFARE.

Turdus naumanni *Temm.*

Adult Male: Fore part above, greyish-brown, marked on crown with darker brown; rump and tail-feathers light fox-red, the central feathers of the latter almost entirely dark brown, and all the other rectrices externally margined with the same; *under surface of tail rufous;* wings dark brown; primary feathers narrowly margined externally with pale, reddish-buff, with a broad patch of the same on inner web (basal half); secondaries and wing-coverts, broadly margined with pale rufous-buff; superciliary stripe, sides of neck, chin, throat and breast, chestnut; indistinctly marked on either side of throat with small, black spots; abdomen whitish; flanks spotted or blotched with chestnut; *axillaries fox-red;* bill blackish, yellowish at base; legs, feet, and irides, light brown. Length 9 inches; culmen 0·8; wing 5·5; tarsus 1·25.

Adult Female: Above, very similar to male, but more olivaceous in tint; beneath, whitish, tinged with rufous on throat and chest, which are spotted with blackish; flanks, strongly blotched with rufous.

Young: More olivaceous above, with no rufous, except at bases of outer rectrices; eye-stripe only imperfectly developed; beneath, white, spotted with blackish-brown on sides of throat; flanks slightly marked with pale rusty-red; sometimes much spotted on breast, like *T. musicus*.

Distribution: A strictly Eastern species, occurring occasionally in Europe on migration.

Habitat: Dense conifer woods.

DUSKY THRUSH.

Turdus fuscatus *Pall.*

Adult Male: Above, dark brown, blackish on crown and

nape, all the feathers broadly margined with greyish-brown or paler brown; feathers of rump bordered with rufous; wings dark brown; primaries narrowly margined with buff; *secondaries* and greater wing-coverts broadly *margined with* bright *chestnut-red; axillaries fox-red;* broad superciliary stripe whitish; sides of face dusky; chin and throat buffy-white, bordered on either side by small, black spots; rest of underparts whiter; *centres of breast and flank-feathers blackish;* under tail-coverts brown, with rufous tinge; under-surface of tail brown; bill blackish-brown, paler at base; legs and feet brown; irides dark brown. Length 8·75 to 9 inches; culmen 0·75; wing 5; tarsus 1·25.

Adult Female: Similar, but duller and paler.

Young: Above, paler and browner than adult; tail dark brown above and beneath, showing no rufous; under parts white, slightly tinged with buff on breast; the latter with throat and flanks broadly spotted with blackish.

Distribution: Very rare autumn straggler from Central Asia.

Habitat: Very similar to that of *T. pilaris.*

BLACK-THROATED THRUSH.

Turdus atrigularis *Temm.*

Adult Male; Above, *greyish-brown*, crown feathers with darker centres; wings and tail browner, with pale margins to most of the feathers; wing-coverts and outer webs of some of secondaries greyish-brown; occular region, chin, *throat*, sides of neck *and chest black*, some of the feathers having pale margins; rest of underparts white, washed on flanks with greyish-brown, and marked on under tail-coverts with reddish-brown; *axillaries rufous;* bill black, yellowish at base: irides dark brown; legs and feet light brown. Length 9·5 inches; culmen 0·75; wing 5·4; tail 4·4; tarsus 1·35.

Adult Female: Above, very similar to male; beneath, white, copiously streaked on throat and chest with lines of black spots; rest of underparts as in male.

Young in first plumage: Feathers of back show ochreous centres and blackish tips; wing-coverts and some of secondaries ochreous tipped; throat, breast, and flanks spotted with blackish; superciliary stripe buff.

Distribution: Rare straggler from Central Asia.
Habitat: Thinly-wooded plains.

DARK THRUSH.

Turdus obscurus *Gmel.*

Adult Male: *Above, olivaceous-brown*, washed with grey on crown and nape; neck and throat dull slate-grey; wings brown, the outer webs washed with olive; primaries greyish edged; tail brown, outer rectrices tipped with whitish on inner webs; ear-coverts, throat, and cheeks, slaty-brown; superciliary stripe white; breast orange-buff; flanks washed with chestnut; rest of under parts and a *patch under the eye white;* the under tail-coverts marked with brown; *axillaries slaty;* bill dark brown, yellow beneath; legs and feet pale brown. Length 7·5 inches; culmen 0·88; wing 4·75; tail 3·5; tarsus 1·2.

Adult Female: No grey tint on the crown and nape; superciliary stripe pale buff; chin, throat, and sides of neck whitish; on either side of throat a stripe of brown.

Young: Feathers above, olivaceous, spotted with ochreous, and dark-tipped; beneath, white, throat and breast thickly spotted with dark brown; flanks dull orange; yellowish-white eye-stripe less distinct than in adult.

Distribution: A very rare straggler from Eastern Asia.
Habitat: Fir forests.

WHITE'S THRUSH.

Turdus varius *Pall.*

Adults: *Above, olive brown*; wings brown, bordered with buff; wing-coverts tipped with buff; *tail (of 14 feathers)* brown, tipped with white, the outer ones darker than the rest; lores greyish-white; beneath, white, tinged on breast with ochreous; axillaries white and black; whole of upper parts broadly marked with black, crescent-shaped spots; under parts similarly marked, faintly so however on chin, abdomen, and under tail-coverts; bill brown, paler beneath; legs and feet yellowish-

brown. Length 12 inches; culmen 1 to 1·2; *wing 6* to *6·5;* tail 4·5; tarsus 1·35.

Immature Birds: Unknown.

Distribution: A rare visitor on migration from Southern-Central Asia.

Habitat: Wooded regions.

SIBERIAN THRUSH.

Turdus sibiricus *Pall.*

Adult Male: *Above*, dark *slaty-grey;* head darker; wings dark brown, externally margined with dark grey, most of quills having a white blotch at base of inner web; tail-feathers chiefly dark-brown, some of outer ones terminating with a white spot; beneath, similar to back, shading into white on centre of abdomen; *superciliary stripe* broad and *white; axillaries white and grey;* under tail-coverts tipped with white; bill blackish-brown; legs and feet light brown; irides dark brown. Length 9 inches; culmen 0·9; wing 4·4 to 4·75; tail 3·4; tarsus 1·2.

Adult Female: Above, rich olive-brown, shading into slaty-grey on rump: wings dark brown, externally bordered with reddish-brown; tail-feathers dark brown, with terminal blotch of white on inner web on outermost pair; beneath, white, shading into buff on breast; flanks shaded with brown; all feathers of lower parts except on central abdomen, tipped with olive-brown; eye-stripe buff.

Young Male (Autumn): Very like adult, but has head and wings washed with brown, some of wing-coverts tipped with ochreous-buff; throat and breast washed with buff and barred.

Distribution: A very rare straggler from Northern Asia.

BLACKBIRD. ✓3

Turdus merula *Linn.*

Adult Male: *Above and beneath, uniform glossy black,* except on quills which are slightly browner; bill orange yel-

low; legs, feet, and irides, dark brown. Length 10 to 11 inches; culmen 0·85; wing 4·75 to 5·5; tail 4; tarsus 1·3.

Adult Female: Above, uniform olive-brown; beneath, brown, becoming paler towards chin, and shaded with grey on abdomen; throat and chest spotted with dark brown; centres of feathers of abdomen and flanks dark brown; bill brown, or occasionally yellow in very old birds; legs, feet, and soles, dark brown.

Young in first plumage: Above, blackish-brown, most of the feathers having a median streak of pale rufous, feathers of under parts, light rufous-brown, with darker terminal bands. Males are darker above than females.

Young Male (Autumn): Similar to adult, but has a blackish bill.

Young Female (Autumn): Resembles adult except for a slight vinous tinge on the breast.

Distribution: Resident throughout most of Europe, the Azores, Northern Africa, and Palestine. A summer visitant only to regions immediately south of the Arctic Circle.

Habitat: Cultivated country, gardens, groves, orchards, &c.

RING OUZEL.

Turdus torquatus *Linn.*

Adult Male (Summer): *Above and beneath, blackish-brown*, with broad *white gorget;* wings and coverts with paler margins, also feathers of abdomen and under tail-coverts; axillaries greyish-brown; bill yellow; legs and feet brown. Length 10 inches; culmen 0·75; wing 5 to 5·7; tail 4·4; tarsus 1·25.

Adult Female: Chocolate-brown instead of black; chin and throat-feathers margined with whitish; gorget suffused with brown; bill brown.

Adults (Winter): Differ only from summer plumage in having pale margins to most of the feathers and the white gorget (especially in the female) less pure.

Young in first plumage: Barred more or less above and beneath with black and brown; wing-coverts tipped with ochreous.

Young (Autumn): Under parts have broad whitish margins to the feathers. In males the gorget is shaded with

brown as in adult females, and in females it is hardly perceptible.

Distribution: Summer visitant to British Islands and mountainous regions of temperate Europe, wintering in Northern and Central Africa and Asia Minor.

Habitat: Elevated, rocky localities.

Genus MONTICOLA.

ROCK-THRUSH.

Monticola saxatilis (*Linn.*)

Adult Male: *Foreparts above, bluish-grey;* lower back white; scapulars brownish-black; wings dark-brown, coverts and secondaries tipped with pale buff; *tail*-feathers *chestnut*-brown, the central ones darker; beneath, pale chestnut, except throat, which is grey; bill black; legs and feet deep reddish-brown. Length 8 inches; culmen 0·7; wing 4·75; tail 2·75; tarsus 1·1.

Adult Female: Above, dull brown, marked with whitish, and brown on back; tail paler than in male; throat and sides of neck, white, mottled with brown; feathers of rest of under-parts white, with reddish tinge, and marked with fine transverse lines.

Young in first plumage: Very like young in autumn, but are rather more conspicuously spotted.

Young (Autumn): Feathers above, more or less dark ashy-brown with broad margins of fulvous-white; wings dark brown, conspicuously margined with fulvous-white; beneath, orange-rufous, with a narrow, irregular bar of brown at tip of each feather; bill and feet horn-brown.

Distribution: Summer visitant to Southern and South-eastern Europe, appearing in Northern Africa on migration, and wintering in South-eastern Africa.

Habitat: High, rocky ground, usually at greater elevation than *M. cyanus*.

BLUE ROCK-THRUSH.

Monticola cyanus (*Linn.*)

Adult Male (Summer): Entire *plumage bluish-slate*

colour, bluer on the head; wings, wing-coverts and tail-feathers, dark brown, margined with blue on the outer webs; bill black; irides brown; legs, feet and claws, black. Length, 8·25 inches; culmen 0·85; wing 4·75; tail 3·5; tarsus 1·1.

Adult Male (Winter): Feathers of upper and under parts margined with pale brown, especially on the head.

Adult Female: Much browner above, and less suffused with blue; beneath, pale whitish-brown, shaded with blue on breast and abdomen; the feathers sub-terminally banded with dark brown.

Young in first plumage: Very similar to adult female.

Young Male (Winter): Above, bluish, shaded with brown on the fore parts, most of back and rump-feathers, obscurely edged with very pale brown; quill-feathers tipped with whitish; throat-feathers almost entirely buff; breast-feathers buff, with cindery-brown edgings.

Distribution: Breeds in Southern Europe, extending eastwards to South-eastern Asia. Winters in Northern Africa, occurring as far south as Abyssinia.

Habitat: Elevated rocky, barren regions.

Sub-family SAXICOLINÆ.

Genus SAXICOLA.

WHEATEAR.

Saxicola œnanthe (*Linn.*)

Adult Male (Summer): *Above, pearl-grey;* forehead, superciliary stripe, and rump white; wings blackish-brown, secondaries just tipped, and some narrowly margined with whitish; tail-feathers white at base, central pair having the terminal half black, outer ones broadly tipped with black; *sides of face black; beneath, white*, shaded on throat, breast and flanks with buff; *under wing-coverts black and white;* bill, legs, and feet, black; irides dark brown. Length 5·75 to 6·25 inches; culmen 0·5; wing 3·6 to 3·8; tail 2·45; tarsus 1.

Adult Female (Summer): Very like the male, but has

the upper parts dull brown; sides of face, wings and tail, browner; superciliary stripe buff.

Adults (Winter): Like adult female in summer, but have the wings, wing-coverts and tail margined towards the tips with buffish-brown, innermost secondaries very broadly so.

Young in first plumage: Above, greyish-brown with a delicate pinky tinge when living, barred and mottled with dark brown; upper tail-coverts white, tipped (obscurely) with brown; wings and tail as in adults in winter; beneath, buffy-white, paler on chin and abdomen; fore parts mottled with brown; bill dark brown, paler beneath.

Young Male in first breeding dress: Like adult but more cindery-grey above, shading into dull chestnut above rump; wings and tail dark brown, secondaries with narrow whitish margins: some of wing-coverts bordered with dull chestnut.

Distribution: Summer visitant to Central and Northern Europe, extending to Iceland and Greenland, and eastwards, throughout Northern Siberia. In winter, ranges from Western and Northern Africa to Persia and Northern India.

Habitat: Rocky hillsides, mountain-tops, stony places on high moors, &c.

BLACK-EARED CHAT.

Saxicola aurita *Temm.*

Adult Male (Summer): Above, white, *clouded with rufous on neck and back;* narrow frontal band, and sides of face black; wings blackish, with somewhat paler tips; tail-feathers, with external half of outer ones, black, central pair three-fourths black; *throat* and under parts *white*, shaded with very pale rufous; bill, legs and feet, black; irides brown. Length 5·5 inches; culmen 0·62; wing 3·5; tail 2·5; tarsus 0·9.

Adult Female (Summer): Fore parts above, brownish-grey; wings and cheeks brownish-black; under parts, white, tinged with rufous on breast.

Adult Male (Autumn): Browner above than in summer, and many of wing-feathers margined or tipped with rufous.

Young in first plumage: Feathers on head, back, and breast have obscure pale centres, and dark terminal bands;

wing-coverts, innermost secondaries and tail-feathers broadly tipped with buff.

Young in Autumn: Very like adult, but head and back are more buffy-brown, also marked with grey; tail-feathers narrowly tipped with whitish; under parts, dirty white, clouded with brown on breast.

Distribution: Summer visitant to Southern and South-eastern portions of Europe, Asia Minor, Palestine, and occasionally of Northern Africa, inhabiting in winter Western or Central Africa.

Habitat: Dry plains, or margins of deserts.

BLACK-THROATED CHAT.

Saxicola stapazina *Vieill.*

Adult Male: *Upper parts and sides of neck white*, washed with pale rufous on fore parts, and a tinge of grey on crown; upper *throat*, sides of face, and wings *black;* secondaries tipped with white; two thirds of central rectrices and terminal half of outer ones black; beneath white, tinged on breast with rufous; bill, legs and feet black; irides brown. Length 5·5 inches; culmen 0·6; wing 3·5; tail 2·5; tarsus 0·85.

Adult Female: Head, nape and back dull rufous; superciliary streak and eye-patch well marked; wing feathers mostly tipped with white and broadly margined with rufous.

Young in first plumage: Obscure pale centres and dark terminal bars to feathers of throat, breast, crown, and back.

Young in Autumn: Fore parts above, and breast, suffused with buff; inner wing-feathers and coverts margined with buff; primaries and tail-feathers tipped with buff, or whitish.

Distribution: South of France, Spain, and North-west Africa, resident in the latter.

Habitat: Dry, stony, or desert regions, and sometimes among rocks near the sea; occasionally among trees.

EASTERN BLACK-THROATED CHAT.

Saxicola melanoleuca (*Güld.*)

Adult Male: *Above white*, marked on crown with grey,

and on *back shaded with pale buff;* entire chin, throat, sides of throat, and *lower throat deep black*, whereas in preceding species the black is confined to uppper part of throat, and is less developed on sides of neck; wings, terminal half of outer rectrices, and two-thirds of innermost pair black; breast just tinged with pale buff; bill, legs and feet black. Length 5·5 inches; culmen 0·6; wing 3·5; tail 2·5; tarsus 0·85.

Adult Female: Above darker than *S. stapazina;* secondaries dark brown to tips, black on throat descends lower down as in male.

Young in first plumage: Similar to *S. stapazina.*

Young after first moult: Very like that of preceding species, but shows more black on throat.

Distribution: Summer visitant from Central Africa to South-eastern Europe, Asia Minor, and Northern Palestine.

Habitat: Similar localities to preceding: at low elevations.

DESERT CHAT. ×

Saxicola deserti *Rüpp.*

Adult Male: *Above silvery-buff*, shading into white on rump; eye stripe narrow, whitish; wings dark brown, secondaries and some of wing-coverts margined with white; rectrices white at bases, and terminal two-thirds black; chin, throat, and sides of neck black (in *winter*, margined with white); rest of under parts creamy-buff, slightly washed on chest with pale rufous; bill, legs, and *feet* black (the latter *very small*); irides brown. Length 5·5 to 6 inches; culmen 0·6; wing 3·5; tail 2·25; tarsus 1.

Adult Female: Crown, nape, back, cheeks, and chest buff or isabelline-buff; throat whitish; wings and tail brown.

Young in first plumage: Feathers of fore parts both above and beneath have pale centres; quills and tail-feathers tipped with buff.

Distribution: Summer visitant in Algeria, Egypt, Arabia, and Palestine; ranging through Abyssinia to North-west India in winter. Has occurred in Great Britain and also in Heligoland.

Habitat: Solitary, desert or dry, rocky regions.

ISABELLINE CHAT.

Saxicola isabellina *Rüpp.*

Adult Male: *Above sandy-brown;* lower rump and upper tail-coverts white; wings dull brown, with paler margins; tail-feathers white at bases, central pair two-thirds, and *outer ones half* brownish-*black*, with very narrow pale margins and tips; superciliary-stripe whitish; *throat* and under parts *white*, washed, especially on breast and flanks, with isabelline; *under surface of wing white;* bill, legs, and feet black; irides brown. Length 6 to 6·25 inches; culmen 0·5; wing 3·75; tail 2·35; tarsus 1·1.

Adult Female: Resembles male, but is somewhat duller.

Young in first plumage: Pale obscure transverse terminal bars, and pale centres to most of upper and under feathers; under wing-coverts white.

Distribution: Southern Russia, Asia Minor, Palestine and Egypt, wintering in Palestine, Egypt, Nubia, and Abyssinia.

Habitat: Similar to that of *S. aurita.*

EASTERN PIED CHAT.

Saxicola leucomela *Pall.*

Adults (Summer): *Crown* and nape *dirty grey;* rump, upper tail-coverts, and under parts below chest white, inclining to buff at vent; plumage otherwise, including *under surface of wing*, *black.* Length 6 inches; culmen 0·5; wing 3·4; tarsus 0·9. In females the fore parts above and beneath are washed with brown.

Adults (Winter): Most of feathers both above and beneath have brown margins.

Young in first plumage: Quills and tail-feathers have broad pale edges and dark terminal bars, with pale centres to back and breast feathers.

Young in Autumn: Brownish margins of wing and tail-feathers broader, otherwise very like adults in winter.

Distribution: Southern Russia, Caucasus, Cyprus, and Central Asia, wintering in Arabia and Abyssinia.

Habitat: Dry, stony localities.

BLACK CHAT.

Saxicola leucura (*Gmel.*)

Adult Male: Upper and under tail-coverts, basal two-thirds of outer tail-feathers and vent, pure white; *plumage otherwise deep brownish-black*, browner on wings; bill, irides, brown; legs and feet black. Length 6.5 inches; culmen 0·8; wing 3·75; tail 2·75; tarsus 1·05.

Adult Female: Similar in general appearance, but much browner, and the white parts tinged with buff.

Young in first plumage: Quills narrowly margined with pale brown; tail-feathers, tipped with white.

Distribution: Resident in South-western Europe, a few also in Spain.

Habitat: Wild, dry, rocky ravines: strictly a mountain bird.

Genus PRATINCOLA.

WHINCHAT.

Pratincola rubetra (*Linn.*)

Adult Male: Feathers above, dark brown, with buff margins, those on rump tinged with rufous; wings dark brown, narrowly margined with buff; greater coverts black; inner wing-coverts and a small patch on spurious wing white; tail dark brown; bases of all outer feathers white; *eye-stripe*, *chin*, and line on either side of throat, *white;* sides of face dark brown; centre of throat and *breast fawn colour*, shading into pale buff on abdomen; bill, legs, and feet black; irides brown; Length 5 inches; culmen 0.4; wing 3; tail 1·95; tarsus 0·85.

Adult Female: Above duller than male; superciliary-stripe dirty yellowish-white; wings showing only trace of whitish tips to some of coverts (purer white in winter); beneath dull yellowish-white, flanks washed with rufous.

Immature Birds: Very like adult females, but the eye-stripe less distinct and hardly any white on the wings.

Distribution: In summer throughout temperate Europe, wintering in Northern Africa.

Habitat: Bushy hill-sides, commons, or meadows.

STONECHAT.

Pratincola rubicola (*Linn.*)

Adult Male (Summer): Feathers of fore parts above black, with brown margins; *upper tail-coverts and some of greater wing-coverts white;* wing and tail-feathers black, with brown margins; entire sides of face and *throat black;* large patch on sides of neck white; chest and flanks rufous-brown, shading into yellowish-white on abdomen; axillaries usually white, mottled with black; bill, legs, and feet black; irides brown. Length 5·25 inches; culmen 0·4; wing 2·75; tail 2; tarsus 0·9.

Adult Female (Summer): Above blackish-brown, with reddish margins to most of the feathers; very little white on wings; throat feathers blackish at bases, margined with white or pale rufous at tip.

Adult Male (Winter): Feathers above bordered with reddish-brown; paler beneath than in summer.

Young in first plumage: Feathers above dark brown, with median streaks of lighter brown; quills and tail-feathers broadly margined with buff; no white on sides of neck.

Distribution: Inhabits temperate Europe west of the Volga; winters in Africa.

Habitat: Barren moors or commons: partial to thorn-thickets and furze-bushes.

EASTERN STONECHAT.

Pratincola maura (*Pall.*)

Adult Male: Resembles adult male of *P. rubicola*, but has the *upper tail-coverts unspotted*, white, the white collar more extended, and the *axillaries black*. Length 4·75 inches; culmen 0·35; wing 2·7; tail, 1·8; tarsus 1·75.

Adult Female: Chin and throat white, otherwise like female of *P. rubicola*.

Distribution: Central Asia and Siberia, ranging into North-eastern Russia. Common in the Petchora Valley.

Habitat: Low bushes and thickets, cultivated regions.

Genus RUTICILLA.

REDSTART.

Ruticilla phœnicurus (*Linn.*)

Adult Male: Forehead white, with narrow black band immediately above the bill; crown, *back*, and scapulars *grey*, tinged here and there with brown; rump, upper tail-coverts, and outer tail-feathers rufous, central rectrices brown, with rufous margins; wing-quills brown, with narrow, pale margins; sides of face, sides of neck and throat, black; *axillaries chestnut;* rest of under-parts rufous, shading into white on vent; bill black; legs and feet nearly black; irides dark brown. Length 5·5 inches; culmen 0·45; wing 3 to 3·25; tail 2·45; tarsus 0·9.

Adult Female: Above, fore parts, brownish-grey, rump and tail-feathers dull orange red, except central pair, which are reddish-brown; beneath greyish-white, tinged with rufous on throat and breast.

Adult Male (Winter): Feathers above closely margined with brown, almost obscuring the grey.

Nestling: Feathers above dull ochre, edged with brown; wings and tail like female, but somewhat duller; beneath sandy-buff, edged with brown; under tail-coverts tinged with red.

Young Male in Autumn: Above similar to adult female, but beneath showing black bases to throat-feathers, and rufous bases to those of chest and flanks.

Distribution: Breeds in Central and Northern Europe, south of the Arctic Circle, migrating through Southern Europe to Northern Africa in autumn.

Habitat: Rocky hillsides, among undergrowth, or cultivated country near woods, gardens or orchards.

EHRENBERG'S REDSTART.

Ruticilla mesoleuca (*Ehr.*)

Adult Male: *Above darker grey than in R. phœnicurus;*

secondaries with outer webs almost entirely white; white on forehead more extended; under parts orange-red, shading into whitish on centre of abdomen; otherwise resembles *R. phœnicurus.* Length 5 to 5·5 inches; wing 3; culmen 0·35; tail 2·15; tarsus 0·8.

Adult Female: Above greyer than in female of preceding; forehead and sides of head dirty white; beneath greyer and more sooty; breast and flanks tinged with dull greyish-orange. Young: Unknown.

Distribution: Probably resident in Greece, Asia Minor, and the Caucasus.

Habitat: Rocky, wooded ravines. Plane woods.

BLACK REDSTART OR BLACKSTART.

Ruticilla titys (*Scop.*)

Adult Male: *Foreparts above slaty-grey;* wings dusky-brown, secondaries bordered broadly on outer webs with white; tail-coverts and tail rufous, the latter tipped with brown, central rectrices brown, externally bordered with rufous; narrow frontal band, sides of face, throat, sides of neck, breast and *axillaries black;* abdomen greyish-white; vent rufous; bill, legs and feet blackish; irides brown. Length 5·75 to 6 inches; culmen 0·45: wing 3·4; tail 2·5; tarsus 0·9.

Adult Female: Sooty-brown, except tail-feathers, which are like those of male, and secondaries which are externally bordered with light brown, underparts also tinged with rufous.

Nestling: Above sooty-grey washed with brown; rump and upper tail-coverts orange-red, barred with brown; tail-feathers reddish-brown; beneath sooty-grey, marked with brown, shading into buff on abdomen; gullet yellow.

Distribution: Summer visitant to Central Europe, occurring on the south coast of England in winter. Resident in some countries south of the Alps, but the majority migrate to Northern Africa in winter.

Habitat: Amongst buildings, wild rocky ravines, marine rocks, &c.

GOULD'S REDSTART.

Ruticilla ochrura *Gmel.*

Adult: Forehead, nape, back and wing-coverts black or greyish-black; crown dull grey; upper and under tail-coverts, tail and abdomen cinnamon-rufous; central pair of tail-feathers having outer webs brown; wings brown, the secondaries having narrow white margins; throat, breast, under wing-coverts and axillaries black; bill and legs nearly black; irides brown. Length 5·8 inches; culmen 0·35; wing 3·25; tail 2·4; tarsus 0·85.

Distribution: Rare straggler to the extreme east of Europe and Central Asia, breeding in the Caucasus and Asia Minor.

Habitat: Probably like that of *R. phœnicurus.*

GÜLDENSTADT'S REDSTART.

Ruticilla erythrogastra (*Güld.*)

Adult Male: Narrow frontal band black; *crown*, nape, and *bases of wing quills white;* back, and rest of wings, black; rump, upper tail-coverts and outer tail-feathers deep rufous; central rectrices tinged with brown; entire sides of head, chin, and throat black; rest of underparts deep rufous; bill, legs, and feet, black; irides dark brown. Length 7 inches; culmen 0·5; wing 4; tail 3·15; tarsus 0·8.

Adult Female: General plumage brownish-ash, darker above; tail-coverts rufous; quills greyish-brown, showing no white. Almost equal in size to the male.

Young in first plumage: Have obscure pale centres to feathers both above and beneath. Immature males resemble adult female, but have innermost secondaries and wing-coverts tipped with buff; vent and under tail-coverts pure white.

Distribution: Ranges from the Caucasus through Central Asia.

Habitat: Elevated country in rocky localities—wooded stream sides (Dresser).

Sub-family SYLVIINÆ.

Genus CYANECULA.

WHITE-SPOTTED BLUETHROAT.

Cyanecula wolfi *C. L. Brehm.*

Adult Male (Summer): Above hair-brown with a greyish tinge; rump olive tinted; wing-quills with paler margins; two central tail-feathers brown, the rest ferruginous, with the apical half brown; above the eye a light streak; chin, *throat and chest ultramarine with large central white spot;* below the blue a distinct black band, succeeded by a ferruginous one; abdomen whitish; bill black; legs and feet brown; irides dark brown. Length 5·5 inches; culmen 0·35; wing 2·9; tail 2·2; tarsus 0·95.

Adult Female (Summer): Upper parts as in male; under parts chiefly dull white, the throat bordered with blackish-brown, and a broad band of the same across the chest, which in old birds is supplemented by markings of blue and chestnut.

Adults (Winter): Assume grey margins to the throat-feathers which are cast again in spring.

Young in first plumage: Have most of the feathers buffish, striped with black, the tail much as in the adult. Young males, after first moult, resemble adult females.

Distribution: Central and Southern Europe, migrating in winter to Palestine and Northern Africa.

Habitat: Undergrowth in swampy localities.

RED-SPOTTED OR ARCTIC BLUETHROAT.

Cyanecula suecica (*Linn.*)

Adult Male: Differs only from its southern ally by having a *chestnut spot on the centre of the throat* in place of the white one so conspicuous in *C. wolfi*.

Adult Female and Young: Indistinguishable from those of *C. wolfi*.

Distribution: Breeds in Arctic and Sub-Arctic Europe and Asia, passing through Central and Southern Europe and Central Asia on migration. Winters in North-eastern Africa and Southern Asia.

Habitat: Resembles that of *C. wolfi*.

Genus ERITHACUS.

REDBREAST.

Erithacus rubecula (*Linn.*)

Adults: *Above olive-brown throughout;* forehead, throat, and upper *breast*, light *orange-chestnut*, margined by grey or brown, interspersed with grey feathers except on lower breast, which is white; greater wing-coverts with pale chestnut tips; bill and irides black; legs and claws brown. Length 5·75 inches; culmen 0·35; wing 2·9; tail 2·3; tarsus 0·95.

Young in first plumage: Feathers of most of upper and under parts yellowish-brown tipped with dusky.

Young in Autumn: Resemble adults, but have a paler coloured breast.

Distribution: Resident in temperate Europe and Northern Africa.

Habitat: Low bushes and undergrowth generally, especially near dwellings.

Genus DAULIAS.

NIGHTINGALE.

Daulias luscinia (*Linn.*)

Adult: Uniform *rich rufous-brown above.* Tail rich rusty-red; beneath buffish-white, shading into greyish-white on breast and flanks; bill brown above and pale brown below; legs, feet, and claws, brown: irides brown. *Length 6·35 inches;* culmen 0·45; wing 3·25; tail 2·6; tarsus 1.

Young in first plumage: Have pale centres to most of the feathers above, and dark margins to those of under parts.

Birds of the year scarcely differ from adults.

Distribution: Summer migrant, breeding in Central and Southern Europe; winters in Africa.

Habitat: Thickets and dense undergrowth.

NORTHERN NIGHTINGALE.

Daulias philomela (*Bechst.*)

Adult: Less rufous in colour than *D. luscinia; breast indistinctly spotted;* wings more pointed, with *a small bastard primary;* bill above brown, and beneath pale horn; legs, feet, and claws brown; irides brown. *Length about 7 inches;* culmen 0·5; wing 3·5; tail 2·8; tarsus 1·15.

Young: Similar to the young of *D. luscinia.*

Distribution: Summer migrant from Central Africa to Eastern and North-eastern Europe, and Asia Minor, where it breeds.

Habitat: Similar to that of *D. luscinia*, but usually near to water.

Genus SYLVIA.

WHITETHROAT.

Sylvia rufa (*Bodd.*)

Adult Male: **(Summer)**: *Above reddish-brown*, darker on wings and tail, greyer on head; wing-coverts and innermost secondaries broadly edged with pale chestnut; outermost tail-feathers edged with white; beneath white, with a pink tinge on the breast; bill dark brown; *legs* and feet *pale brown;* irides hazel. Length 5·5 inches; culmen 0·35; *wing 2·75;* tail 2·5; tarsus 0·75.

Adult Female (Summer): Duller; head browner, and lacking the rosy tinge on the breast.

Adult Male (Winter): Above more rufous; edgings of quills broader and richer; breast washed with pale buff.

Young in first plumage: Above like adult male in winter, but darker, and the quills more broadly edged; beneath washed with brown on breast and flanks; outer tail-feathers tinged with rufous; irides yellowish-brown.

Distribution: Summer visitant to, and breeding in most of Europe, wintering in Southern Africa.

Habitat: Bushes and undergrowth generally.

LESSER WHITETHROAT.

Sylvia curruca (*Linn.*)

Adult Male (Summer): *Above pale slate-colour*, suffused with brown, which becomes darker on the sides of the head; quills brown, innermost secondaries with broad, lighter margins: outer webs of outermost rectrices white: breast and flanks very pale brown: rest of underparts white; bill nearly black above, lighter at base beneath; *legs*, feet and claws *bluish-grey;* irides hazel. Length 5 to 5·25 inches; culmen 0·3; wing 2·6; tail 2·3; tarsus 0·8.

Adult Female: Slightly smaller; head browner; sides of head pale; beneath tinged with grey.

Adult (Winter): Above ashy-brown, greyish on head and ear-coverts; beneath, showing rather more brown about the chest and flanks.

Young in first plumage: Above brownish-grey, greyer on the head; wings and tail greyish-brown, with lighter margins to feathers; beneath dull white, clearer on throat; flanks, breast, and under tail-coverts slightly washed with pale brown; legs greyish-brown.

Distribution: Breeds throughout most of Europe, wintering in Africa.

Habitat: Groves, gardens, and shrubberies.

SUB-ALPINE WARBLER.

Sylvia subalpina *Bonelli.*

Adult Male (Summer): *Above* ashy-*grey;* wings and

tail brown, with pale edges; *throat* and chest reddish-*chestnut*, bordered on either side by a white line from base of bill; rest of underparts chiefly white; bill and legs brown; eyelids red; irides brown. Length 5 inches; culmen 0·4; wing 2·4; tail 2·15; tarsus 0·75.

Adult Female: Upper parts, ashy-brown; beneath, creamy-white; flanks, shaded with brick-red.

Birds of the Year: Buffish-brown on breast and flanks: the male resembling the female, except in being slightly greyer on the upper parts.

Distribution: Summer visitor from Northern Africa to the basin of the Mediterranean.

Habitat: Among dense undergrowth.

SPECTACLED WARBLER.

Sylvia conspicillata *Marm.*

Adult Male (Summer): Back greyish-chestnut; *head* to below the eyes, rump, and tail, *slate-grey;* wings and coverts dark brown; the latter, with innermost secondaries, broadly edged with chestnut; tail brown, outermost feathers more or less white; *blackish line from base of bill passing round the eye;* eyelids and *chin white;* throat slaty; breast and flanks vinous; centre of abdomen white; bill dark brown; legs and feet yellowish flesh-colour; irides pale brown. Length 4·8 inches; culmen 0·35; wing 2·25; tail 2·2; tarsus 0·7.

Adult Female: Above, uniform reddish-brown; throat white; no distinct dark circle round the eyes; breast and flanks pale buffish.

Young in first plumage: Both sexes similar to female, but with browner head.

Distribution: Summer visitant to the basin of the Mediterranean from Northern Africa.

Habitat: Waste places; among dense bushes.

SARDINIAN WARBLER.

Sylvia melanocephala (*Gmel.*)

Adult Male: *Head*, region of the eye, and ear-coverts

black ; back and scapulars *slate-grey ;* wings dusky, with pale edges to the feathers ; tail *slaty-black*, with white tips to outermost feathers, *longer than wings ;* beneath white, shading into grey on sides of body ; bill black, yellowish at base beneath ; legs and feet brown ; irides brown. Length about 5 inches ; culmen 0·35 ; wing 2·15 to 2·25 ; tail 2·35 ; tarsus 0·75.

Adult Female : Above brown ; head dark greyish-brown ; throat and centre of abdomen white ; breast and sides of body greyish-brown.

Birds of the Year and nestlings : Very similar to adult females.

Distribution : Partial resident on the northern shores of the Mediterranean ; winter visitant to Northern Africa.

Habitat : Dry, bush-covered mountain ravines.

ORPHEAN WARBLER.

Sylvia orphea *Temm.*

Adult Male : *Crown* and sides of face *sooty-black ;* rest of upper parts slaty-brown ; quills and tail brown, with broad, ashy margins ; *outermost tail-feathers white on outer webs ;* beneath white, shaded with greyish-brown on breast and sides of body ; bill dark brown, paler at base beneath ; *legs*, feet and claws *slaty ;* irides sulphur-yellow. Length 6 inches ; culmen 0·55 ; wing 3 to 3·2 ; tail 2·6 ; tarsus 0·9.

Adult Female : Generally duller, the black on the head less developed.

Young in first plumage : Above much paler than in female. Head pale leaden-grey ; beneath paler and whiter.

Distribution : Breeds throughout Central and Southern Europe and Northern Africa. Winters in Central Africa.

Habitat : Groves and thickets, partial to coniferæ.

RÜPPELL'S WARBLER.

Sylvia rueppelli *Temm.*

Adult Male : Most of *head and throat black ; malar streak white ;* back, from nape to upper tail-coverts, blue-grey ; wings

dark brown with whitish margins, narrow on primaries and broad on secondaries and coverts; tail blackish, outermost feathers white, beneath white, with rosy tinge; flanks washed with grey; chin and throat black; bill blackish; legs pale brown; irides dark brown. Length 5·25 inches; culmen 0·45; wing 2·8; tail 2·5; tarsus 0·8.

Adult Female: Above greyish-brown, greyer on head, where the feathers have dark bases; throat and flanks washed with brownish-grey; rest of underparts white.

Adult Male (Winter): Black feathers of throat and crown with pale margins, otherwise similar to summer plumage.

Birds of the Year: Similar to female, but head browner; back duller; tail greyish-brown; secondaries edged with pale rufous; throat and flanks washed with pale brown.

Distribution: Summer visitant to Greece, Asia Minor, and Palestine, wintering in Northern Africa.

Habitat: Dense bushes and reeds.

BLACKCAP.

Sylvia atricapilla (*Linn.*)

Adult Male (Summer): Above ashy-brown, becoming bluish-ash on rump, upper tail-coverts and nape; *crown black;* wings brown with pale margins; *tail ashy-brown throughout; throat* and underparts *ashy-grey*, paler on chin and abdomen; bill horn colour; legs leaden-grey; irides hazel-brown. Length 5·5 inches; culmen 0·4; wing 2·8; tarsus 0·8.

Adult Female (Summer): *Head rufous.* Upper surface of body browner than in male.

Adult Male (Winter): Nape more suffused with brown; sides of body washed with buffish-brown.

Young in first plumage: Sexes alike. Above as in adult female; beneath whitish, shaded with greyish-brown on breast and buffish-brown on sides of body.

Young after first moult: Scarcely differ from adult female, except that the head of young male is darker brown.

Distribution: Resident in Southern Europe and Northern Africa, extending northwards through the temperate regions of Europe in summer.

Habitat: Groves and dense deciduous undergrowth.

GARDEN WARBLER.

Sylvia salicaria (*Linn.*)

Adult (Summer): Above hair-brown, slightly darker on wings and tail; wing-coverts and innermost secondaries lighter on margins; beneath greyish-white; breast and flanks shaded with pale buffish-brown; *axillaries buff;* bill brown; legs and feet bluish-grey. Length 5·8 to 6 inches; culmen 0·4; *wings 3·0 to 3·25;* tarsus 0·85.

Adult (Autumn): Above more olive, beneath more buff.

Birds of the Year: Indistinguishable from adults in autumn.

Distribution: Summer migrant from Africa, breeding in most parts of temperate Europe. Scarce in Ireland, not found nesting in Sicily or Greece.

Habitat: Woodland districts where undergrowth is dense.

BARRED WARBLER.

Sylvia nisoria *Bechst.*

Adult Male (Summer): Above dark brownish-grey, clearer on rump and head, browner on quills, wing-coverts and innermost secondaries, the two latter broadly tipped with white; most feathers above, except those of centre of back, more or less broadly tipped with white and with a subterminal dark bar; *beneath greyish-white;* chin, throat, breast, sides of body and under tail-coverts *barred with brown;* bill brown, yellowish at base of lower mandible; legs, feet, and claws pale greyish-brown; irides pale yellow. Length 6·25 inches; culmen 0·5; *wing 3·5;* tail 2·8; tarsus 1.

Adult Female (Summer): Greyer above, less barred on under parts.

Adult (Winter): Above browner; barring both above and beneath more distinct.

Young in first plumage: Above almost uniform pale greyish-brown, slightly rufous on the tail; beneath white, shaded on the flanks with dull brown and the chest obscurely mottled with dull brownish-grey, having a marbled appearance.

Distribution: Summer visitant from North-eastern and

Central Africa to most of Central and Southern Europe. A rare straggler only to the British Isles.

Habitat: Partial to thorn-thickets or willow-bushes.

Genus MELIZOPHILUS.

DARTFORD WARBLER.

Melizophilus undatus (*Bodd.*)

Adult Male (Summer): Above sooty-brown, shading into deep slate-colour on head; wings dark brown, paler margined; *beneath chestnut-brown;* centre of abdomen and some streaks on throat white; bill dark brown, paler at base beneath; legs, feet, and claws pale brown; irides orange-yellow. Length 5 inches; culmen 0·35; wing 2; tail 2·7; tarsus 0·75.

Adult Female (Summer): Differs from male in having the general colour of under parts, except centre of abdomen, pale cinnamon-brown.

Birds of the Year: Like female, but paler and browner above and paler beneath.

Distribution: Resident in Western and Southern Europe, including parts of south of England.

Habitat: Dense thickets and furze bushes on commons.

MARMORA'S WARBLER.

Melizophilus sardus (*Marm.*)

Adult Male (Summer): Above deep blackish-grey, deepest on forehead and round the eyes; wings and tail blackish-brown, *the latter the longer*, outermost rectrices margined with white; feathers of *throat and sides of body slaty*, some with whitish margins; rest of under parts dull white; bill dark horn, yellowish at base of lower mandible; legs yellowish-brown; irides brown. Length 5 inches; culmen 0·4; wing 2·2; tail 2·4; tarsus 0·8.

Adult Female (Summer): Both upper and under parts browner, otherwise like the male.

Adult (Winter): Plumage of both sexes browner. Female slightly paler in general colour than male.

Birds of the Year: Much paler, especially on under-parts.

Distribution: Resident in Southern Europe, east of Spain, also on Balearic Islands, Corsica, Sardinia, and Sicily.

Habitat: Dense bushes or thickets.

Sub-family PHYLLOSCOPINÆ.

Genus REGULUS.

GOLDEN-CRESTED WREN.

Regulus cristatus *Koch.*

Adult Male: Above olive-green; *crown orange-yellow*, bordered with black; *forehead olive-brown;* wings and tail brown, margined with yellowish; wings crossed by two white bars; beneath greyish-brown; bill dark brown; legs, feet, and claws brown; irides brown. Length 3·5 inches; culmen 0·3; wing 2·15; tail 1·6; tarsus 0·7.

Adult Female: General plumage duller; crest lemon-yellow.

Nestling: Above blackish-brown or olive-brown, no trace of yellow on head; yellowish margins to wing-feathers, and one wing stripe conspicuous; beneath much shaded with brownish-buff, especially on sides of body.

Distribution: A common resident in temperate Europe, including the British Islands.

Habitat: Fir woods, gardens, &c.

FIRE-CRESTED WREN.

Regulus ignicapillus (*C. L. Brehm.*)

Adult Male: Above olive-green, brighter on sides of neck; *frontal band* and sides of face *whitish*, with a *black line through*

the eye: centre of crown orange-yellow, bordered by broad black line on either side; ear-coverts slaty; wings and tail dark brown with pale margins, crossed by two white bars; beneath dull buffish-white. Bill, legs, feet and claws dark brown; irides hazel-brown. Length 3·5 inches; culmen 0·35; wing 2·15; tail 1·7; tarsus 0·75.

Adult Female: Crest paler and general colouring less brilliant.

Young in first plumage: Crown similar to rest of upper parts; forehead, cheeks, and sides of neck cinereous.

Distribution; Resident in most of temperate Europe, but not extending so far north as *R. cristatus*. Of casual occurrence only in Great Britain.

Habitat: Similar to preceding species.

Genus PHYLLOSCOPUS.

YELLOW-BROWED WARBLER.

Phylloscopus superciliosus (*Gmel*).

Adult Male (Summer): Above greyish-olive, washed with green on rump and upper tail-coverts; *wings* brown, *crossed by two conspicuous whitish bars;* most of feathers externally margined with yellowish-green; *from base of bill to nape a broad greyish-white streak*, with a dark one immediately below it and through the eye; beneath white, washed with yellowish-green, especially on flanks; axillaries yellow, bill, legs, feet, and claws brown; irides dark brown. Length 3·75 inches; culmen 0·3; *wing 2·1;* tail 1·7; tarsus 0·65.

Adult Female (Summer): Similar, but somewhat duller throughout.

Adult (Autumn): Above greener; eye-stripe very distinct, but sulphur-coloured; tips to wing-coverts and secondaries also sulphur-yellow.

Distribution: An accidental visitor to England and elsewhere in Europe. Breeds in Northern Asia, wintering in Southern China and Burma.

Habitat: Dense bushes, pine woods, &c.

SIBERIAN CHIFFCHAFF.

Phylloscopus tristis *Blyth.*

Adult Male: Similar to *P. collybita*, but earthy-brown above and beneath nearly white with exception of a shade of pale buff on breast and sides of body; *wing shorter and rounder, second primary intermediate in length between sixth and eighth;* eye-stripe buffish, narrow, not reaching to nape; bill dark brown; *legs*, feet, and claws *nearly black*; irides brown. Length about 4 inches; culmen 0·3; wing 2·3; tail 1·9; tarsus 0·7.

Female: Similar to male but smaller.

Adult (Autumn): Buff eye-stripe more developed.

Distribution: Summer visitant to valleys of Petchora and Kama, wintering in India.

Habitat: Spruce firs, willows, &c., or long grass, in damp situations.

CHIFFCHAFF.

Phylloscopus collybita (*Vieill.*).

Adult (Summer): Above olive-green, yellower towards tail, which with the wings are brown, edged with yellowish-green; *second primary intermediate between sixth and seventh;* a slight, pale eye-stripe; beneath yellowish-white, yellower on breast and flanks; bill, *legs*, feet, and claws *blackish-brown;* irides brown. *Length 4·75* inches; culmen 0·3; wing 2·4; tail 2; tarsus 0·6.

Autumn: Whole plumage suffused with buff, eye-stripe buff.

Nestling: Above browner; little or no eye-stripe; beneath buffish-white.

Distribution: A summer visitant to Northern temperate Europe, wintering on the shores of the Mediterranean.

Habitat: Woods, groves, and gardens.

WILLOW WARBLER OR WILLOW WREN.

Phylloscopus trochilus (*Linn.*).

Adult (Summer): Above olive-green, yellower on rump;

wings and tail brown, edged on outer webs with yellowish-green; *second primary intermediate between fifth and sixth;* distinct greenish-yellow stripe from base of bill to crown; *beneath* greyish-white, *suffused with yellow;* bill, *legs*, feet and claws *brown;* irides hazel. Length about 5 inches; culmen 0·35; wing 2·7; tail 2; tarsus 0·8.

Nestling: Above as in adult but darker; eye-stripe just discernible; beneath white, washed with pale yellow; edges of wing and thigh feathers yellow.

Distribution: Summer visitant from Africa and Persia to Europe, ranging northwards to the Arctic regions.

Habitat: Similar to that of preceding species.

WOOD WARBLER OR WOOD WREN.

Phylloscopus sibilatrix (*Bechst*).

Adult (Summer): *Above yellowish-green*, yellower on rump and upper tail-coverts; *eye-stripe distinct*, greenish-yellow; wing-coverts olive-green with paler margins; quills brown, tipped with greyish-white, edged with yellowish-green; sides of head, upper throat and chin yellow, which also slightly tinges the flanks; *under-parts otherwise white;* bill dark brown above, much paler below; legs and feet brown; irides hazel-brown. Length 4·8 to 5·25 inches; culmen 0·3; wing 2·8 to 3; tail 2; tarsus 0·7.

Nestling: Above as in adult, but quills paler, chin and throat yellow, rest of lower parts pure white.

Distribution: A summer migrant to Great Britain and Northern temperate Europe. Winters in Northern Africa.

Habitat: Deciduous woods and copses.

BONELLI'S WARBLER.

Phylloscopus bonellii (*Vieill*).

Adult (Spring): Above buffish-brown, *suffused with yellow on rump and upper tail-coverts;* eye-stripe indistinct, greyish-white; wings and tail brown, edged with paler brown and greenish-yellow; beneath white, faintly shaded with buffish-

yellow on chin, throat, and flanks; *axillaries sulphur-yellow;* bill above dark brown, lighter beneath; legs and feet brown; irides brown. *Length 4·5 inches;* culmen 0·35; wing 2·5; tail 1·82; tarsus 0·75.

Adult (Autumn): Less yellow on rump and upper tail-coverts, light wing margins narrower.

Young: Resemble adults, but are greener.

Distribution: Summer visitant from Africa to Southern Europe.

Habitat: Wooded hill-sides, &c.

GREY-LEGGED WILLOW WARBLER.

Phylloscopus plumbeitarsus *Swinh.*

Adult (Summer): Above greyish-brown tinged with yellowish-green; wings and tail edged with yellowish-green; *wings crossed by two whitish bars; second quill intermediate between seventh and eighth, bastard primary very long;* yellowish-white superciliary streak from base of bill to nape; beneath dull white; cheeks, breast, and flanks washed with grey; thighs yellowish; bill brown, paler beneath; legs and feet plumbeous; irides brown. Length 4·5 inches; culmen 0·35; wing 2·45; tail 2·05; tarsus 0·8.

Young: Similar, but somewhat greener in tint.

Distribution: Breeds in the extreme east of Russia, ranging across Central Asia.

Habitat: Wooded mountain districts.

EVERSMANN'S WARBLER.

Phylloscopus borealis (*Blasius*).

Adult (Summer): Above greyish-brown, washed with pale green, yellower on the rump; *wings* and tail margined with yellowish-green, former *crossed by two whitish bars; bastard primary very short; broad yellow superciliary stripe* from base of bill to nape; beneath greyish-white, breast and

flanks washed with yellowish and grey; bill dark brown above, lighter beneath; legs, feet and irides brown. Length 4·5 inches; culmen 0·5; wing 2·7; tail 1·7; tarsus 0·75.

Autumn: Beneath pale yellow, breast and flanks washed with grey.

Distribution: Ranges from north of Norway, across Asia to Alaska, occurring in winter as far south as the Indian Archipelago. (Dresser.)

Habitat: Large birch forests, in the vicinity of lakes and rivers.

Genus HYPOLAIS.

MELODIOUS WARBLER.

Hypolais polyglotta (*Vieill*).

Adult (Summer): Above greyish-olive, darker on head; wings and tail brown with lighter margins; superciliary streak yellowish; beneath pale yellow; flanks and sides of neck washed with pale brownish-olive; bill above brown, beneath yellowish at base; *legs* and feet *greyish-brown*: irides brown. Length 4·5 inches; width of mandible at base 0·22; culmen 0·5; *wing 2·5*; tail 2; tarsus 0·8.

Adult (Winter): Greyer above and paler beneath.

Young after first moult: Similar to adult in winter.

Distribution: Inhabits South-western Europe and North-western Africa.

Habitat: Marshy, bush-covered localities; broom thickets, gardens.

ICTERINE WARBLER.

Hypolais icterina (*Vieill*).

Adult (Summer): Above olive-green; wings and tail brown, margined with whitish; *beneath greenish-yellow*, also eye-stripe and axillaries; bill brown above, horn-colour be-

neath; *legs*, feet and claws *bluish-grey;* irides brown. Length 5 inches; culmen 0·6; *wing 3·1;* tail 2·25; tarsus 0·8.

Adult (Winter): Above less green and beneath paler.

Birds of the Year: Indistinguishable from adults in winter.

Distribution: Breeds in Northern and Central Europe, passing through Southern Europe on migration, and wintering in South Africa. Of casual occurrence only in England.

Habitat: Willow and other thickets in damp situations; gardens, orchards, &c.

OLIVE-TREE WARBLER.

Hypolais olivetorum (*Strick*).

Adult (Summer): Above *brownish-grey*, tinged with olive, especially towards tail; wings and tail browner and darker, with whitish margins; superciliary streak whitish; beneath pale buffish-white, clearer on chin; throat, central abdomen and flanks washed with greyish-brown; bill above dark brown, beneath pale horn; legs, feet and claws dark bluish-grey; irides dark brown. Length 6 inches; culmen 0·7; *wing 3·3;* tail 2·8; tarsus 0·9.

Adult (Winter): Greyer beneath, otherwise similar.

Young after first moult: Scarcely differ from adults in winter dress.

Distribution: Eastern Spain; abundant in Greece, and found also through Asia Minor and in Northern Palestine. Winters in Northern Africa.

Habitat: Olive and oak plantations.

OLIVACEOUS WARBLER.

Hypolais pallida (*Ehr*).

Adult (Spring). Above pale olive-brown, rather lighter on rump; superciliary streak yellowish, indistinct; wings and tail dark brown with lighter margins; *first primary longer than coverts;* beneath buffy-white, purest on throat and centre of ab-

domen; flanks washed with pale brown; bill horn-colour, under mandible yellowish; legs and feet pale horn-brown; irides dark brown. Length 5 inches; culmen 0·5; *wing 2·5;* tail 2·15; tarsus 0·8.

Adult (Summer and Winter): Similar, but feathers become paler by abrasion.

Young: Closely resemble adults.

Distribution: Frequents South-eastern Europe in summer, wintering in Northern Africa.

Habitat: Olive-groves and gardens.

WESTERN OLIVACEOUS WARBLER.

Hypolais opaca (*Licht*).

Adult (Summer): Similar to *H. pallida*, but longer, with first primary usually rather longer and a broader bill. Length 5·25 inches; culmen 0·6; under-mandible, at base 0·3; *wing* 2·8; tail 2·55; tarsus 0·9.

Adult (Winter): Becomes greyer by abrasion of the feathers.

Distribution: Breeds in Spain and winters in North-western Africa. Has been known to occur also in South France.

Habitat: Wooded plains, gardens, &c.

BOOTED WARBLER.

Hypolais caligata (*Licht*).

Adult (Summer): *Above warm pale rufescent-brown; second primary intermediate in length between sixth and seventh;* superciliary streak pale yellowish; rump lighter than back; wings and tail dark brown with pale margins; beneath white, washed on flanks and sides of body with buff; chin and throat white; bill horn-brown, paler below; legs and feet dull brown; irides brown. Length 4·75 inches; culmen 0·45; wing 2·45; tail 2; tarsus 0·85.

Young after first moult: Resembles adult, but general

colour above more rufous; margins to wing-feathers broader; beneath with a rufous tinge, except on throat and chin; first primary somewhat longer than in adults.

Distribution: Breeds in the extreme east of Russia, and ranges through Turkestan and Northern India.

Habitat: Low bushes, &c., often at considerable elevation.

Genus AËDON.

RUFOUS WARBLER.

Aëdon galactodes (*Temm*).

Adult: *Above chestnut*, brighter on rump and tail-feathers, the latter (except central ones) with dark brown patch towards end of each feather, the tip white, outer feathers whitest; superciliary stripe whitish; wings brown, broadly edged with pale rufous; beneath buffish-white; bill and legs pale brown, the former lighter at base beneath; irides dark brown. Length 6·75 inches; culmen 0·6; *wing 3·5;* tail 3; tarsus 1·1.

Young: Similar, but quills and wing-coverts margined broadly with pale fulvous.

Distribution: Breeds in South-western Europe, wintering in Africa.

Habitat: Among gardens, hedges, mimosa-groves, or reeds.

GREY-BACKED WARBLER.

Aëdon familiaris (*Ménétr*).

Adult: Similar to *A. galactodes*, but *greyer above:* rump and upper tail-coverts rufous; quills margined with dull whitish-buff; *central tail-feathers dark brown almost to base;* outer tail-feathers showing less white; under-parts pale greyish-white; bill brown above, horn-colour beneath. Length 6·5 to 6·75 inches; culmen 0·6; wing 3·5; tail 2·7; tarsus 0·95.

Distribution: Breeds in South-eastern Europe, ranging eastwards through Asia Minor and Persia to Rajpootana.

Habitat: Vineyards, olive groves, &c.

Genus ACROCEPHALUS.

PADDY-FIELD WARBLER.

Acrocephalus agricola (*Jerd*).

Adult (Summer): *Above pale rufous*, brighter on rump; wings and tail brown, with lighter margins; *second primary shorter than fifth;* sides of head brown; superciliary streak nearly white; beneath white, tinged with buff on flanks and vent; bill brown, paler beneath; legs pale brown; irides yellowish-brown. Length 5·25 inches; culmen 0·4; *wing 2·25;* tail 2·25; tarsus 0·9.

Adult (Spring): Brighter in general tone. Under parts washed with yellowish-buff.

Young: Similar, but have first primary rather longer than adults.

Distribution: Of rare occurrence in the extreme east of Europe. Breeds in Northern India. Found also in Turkestan.

Habitat: Rice swamps, thickets.

BLYTH'S REED WARBLER.

Acrocephalus dumetorum *Blyth*.

Adult (Summer): *Above olive-brown;* wings and tail darker brown with pale edges; *secondaries very long:* superciliary streak nearly obsolete; beneath buffish-white, flanks and breast shaded with brownish; bill brown, darker above than below; legs and feet pale horn; irides brown. Length 5·5 inches; culmen 0·6; *wing 2·33 to 2·5;* tail 2 to 2·3; tarsus 0·9.

Adult (Winter): Above with more fulvous tinge and brighter; beneath clearer buff.

Distribution: A summer visitant to Central Palearctic region, breeding from St. Petersburg to the valley of the Yenesay. Winters in India and Ceylon.

Habitat: Wooded or low bushy ravines, often near water.

REED WARBLER.

Acrocephalus streperus (*Vieill*).

Adult (Summer): *Above pale brown, with a russet tint, especially on rump;* wings and tail hair-brown, with paler edges; *second primary longer than fifth;* eye-stripe pale yellow; beneath white; flanks, sides of neck and chest washed with brownish-buff; legs dark brown; bill pale brown, paler at base of lower mandible; irides brown. Length 5·5 inches; culmen 0·6; *wing 2·35 to 2·7*; tail 2; tarsus 0·9.

Adult (Winter): Under parts suffused with buff.

Young: Similar, but rather buffer beneath.

Distribution: Breeds in Central and Southern Europe, wintering in Africa.

Habitat: Marshy localities; thickets of reeds or sedges.

MARSH WARBLER.

Acrocephalus palustris (*Bechst*).

Adult: Like the preceding, but *more olivaceous-brown above* and whiter beneath; and with a *more pointed wing* than *A. streperus; second primary longer than fourth;* legs brownish flesh-colour; irides dark brown. Length 5·5 inches; culmen 0·62; wing 2·5 to 2·8; tail 2 to 2·4; tarsus 0·95.

Young: Similar, but greener on the upper parts.

Distribution: Breeds in Central and Southern Europe, wintering in Africa.

Habitat: Where bushes and reeds are intermixed.

GREAT REED WARBLER.

Acrocephalus arundinaceus (*Linn*).

Adult: Above light brown, with a rufous tinge, most distinct on rump and margins of quills and tail-feathers; *second primary about equal to third and longest in wing;* eye-stripe very obscure; beneath nearly white on chin, throat and centre of abdomen;

breast, flanks and under tail-coverts pale rufous-brown; bill brown, yellow at base beneath; *legs light brown*, feet darker; irides brown. Length 8 inches; culmen 0·8; *wing 3·6 to 3·8;* tail 3·25; tarsus 1·2.

Young: Redder above and more fawn-coloured beneath.

Distribution: Breeds in Central and Southern Europe, wintering in South Africa.

Habitat: Marshy localities; reed-beds.

AQUATIC WARBLER.

Acrocephalus aquaticus (*Gmel*).

Adult: Above pale tawny-brown; eye-stripe broad and distinct, whitish, extending far back; *distinct light stripe from base of bill through centre of crown to nape*, bordered on either side by one of dark brown; lores and feathers behind eye russet-brown; feathers of upper parts ashy-brown with dark brown centres (with the exception of quill-feathers, which are uniform brown); beneath whitish, with a buff tinge; chest and flanks slightly striated with brown; bill dark brown, yellowish at base beneath, somewhat slender. Legs light yellowish-brown; irides dark brown. Length 4·5 inches; culmen 0·4; wing 2·4; tail 1·95; tarsus 0·8.

Young: Above, washed with warm pale rufous, which also margins the quills and tail-feathers; beneath yellowish-buff, shading into white on chin and centre of abdomen; scarcely any trace of striations on under parts.

Distribution: Breeds in Central and Southern Europe from the Atlantic to the Urals, probably wintering in Southern Africa.

Habitat: Vegetation in marshy localities.

SEDGE WARBLER.

Acrocephalus phragmitis (*Bechst*).

Adult (Summer): Above olive-brown, yellowish-rufous on rump; *four longitudinal, dark-brown stripes on head;* well-defined eye-stripe whitish, broader towards nape; centres of upper back-feathers shaded with dark-brown; wings and tail

brown with pale margins; second primary longer than fourth; beneath creamy-white, shaded, especially on flanks, with yellowish-brown; bill brown, flesh-coloured at base of lower mandible; legs brown; irides brown. Length 5 inches; culmen 0·4; wing 2·65; tail 2; tarsus 0·85.

Adult after Autumn moult: Quills tipped with whitish.

Young: More rufous above, throat spotted with dark brown.

Distribution: Breeds throughout most of Europe, being found as far east as the valley of the Yenesay and a little north of the Arctic Circle. Winters in South Africa.

Habitat: Thickets, reeds, sedges, &c.

Genus LUSCINIOLA.

MOUSTACHED SEDGE WARBLER.

Lusciniola melanopogon (*Temm*).

Adult: Above olive-brown, inclining to chestnut on rump, *back feathers having dark centres; head nearly black*, more or less marked with rufous; wings and tail dark brown with pale edges; *first primary broad and long;* superciliary streak broad and distinct, greyish-white; stripe through the eye, lores and ear-coverts dark brown; beneath nearly white, shaded with buffish-brown on chest and sides of body; bill above very dark brown, paler below; legs and feet dark brown; irides brown. Length 5·25 inches; culmen 0·49; wing 2·2 to 2·3; tail 2·15; tarsus 0·85.

Young: More russet above and less white beneath.

Distribution: Resident on both shores of the Mediterranean.

Habitat: Among reeds and thick sedges.

Genus LOCUSTELLA.

GRASSHOPPER WARBLER.

Locustella nævia (*Bodd.*)

Adult (Summer): *Above* greenish-brown, *feathers with*

obscure darker centres; tail brown, faintly barred; beneath pale brown, spotted with darker brown on neck and breast; under tail-coverts with darker centres; bill, legs and feet brown; irides brown. Length 5·45 inches; culmen 0·35; *wing 2·45;* tail *(much rounded)* 2·2: tarsus 0·7.

Young: More conspicuously marked above and *throat and chest speckled with brown;* otherwise similar to adults.

Distribution: Summer visitant to temperate Europe, including the British Isles, wintering in Northern Africa and occasionally in Southern Europe.

Habitat: Swamps, commons, woods, &c., in dense undergrowth.

LANCEOLATED WARBLER.

Locustella lanceolata (*Temm.*)

Adult Male (Summer): *Above yellowish-brown* with a greyish tinge, *centres of feathers* striped with *black;* wings and tail dark brown with pale margins; *under parts* paler and yellower, *striped* more narrowly and sparsely; bill blackish above, yellowish beneath; legs and feet pale yellowish; irides brown. Length 4·5 to 5 inches; culmen 0·45; *wing 2 to 2·25;* tail 1·85; tarsus 0·7.

Birds of the Year: Whole of the under parts suffused with greyish-yellow.

Distribution: Breeds in Russia near St. Petersburg, also in Central Asia, and winters in South-eastern Asia.

Habitat: Undergrowth in marshy localities.

RIVER WARBLER.

Locustella fluviatilis (*Wolf*).

Adult: *Above almost uniform olive-brown;* beneath, throat, chest and flanks washed with dull brown and marked with darker brown; chin and abdomen white; under tail-coverts pale rufescent-buff with broad white tips; bill dark horn, yellowish at base beneath; feet pale flesh-colour; irides brown. Length 5·5 inches; culmen 0·5; *wing 2·9;* tail 2·3; tarsus 0·8.

Birds of the Year: Lack the throat stripes.

Distribution: Breeds in Russia as far north as Lake Ladoga, probably not extending its range westwards beyond the valley of the Danube. Winters in Northern Africa.

Habitat: Willow beds, woodland districts, pastures.

SAVI'S WARBLER. ×

Locustella luscinioides (*Savi*).

Adult: *Above uniform russet-brown; eye-stripe indistinct;* beneath pale buffish-brown, shading to nearly white on throat and centre of abdomen; under tail-coverts pale reddish-brown, with obscure pale tips; bill above dark brown, beneath horn colour; legs, feet and claws pale brown; irides brown. Length 5·5 inches; culmen 0·55; *wing 2·7;* tail 2·5; tarsus 0·9.

Young: Are said to be less rufous on the upper parts, and paler underneath.

Distribution: Summer visitant to temperate Europe, very rarely to the British Isles; found also on both shores of the Mediterranean.

Habitat: Low, marshy localities, in dense reeds, and sedges.

Genus CETTIA.

CETTI'S WARBLER.

Cettia cettii (*Marm*).

Adult: *Above almost uniform rich russet-brown;* eye-stripe greyish-brown, moderately distinct; spurious primary very large; *rectrices ten in number;* chin, throat and centre of abdomen white; flanks and under tail-coverts brownish-grey, the latter tipped with white; bill brown, lighter beneath; legs and feet pale brown; irides nut-brown. Length 5·5 inches; culmen 0·45; *wing 2·4;* tail 2·55; tarsus 0·85.

Young in Autumn: Richer russet-brown above; greyer beneath.

Distribution: Resident on both shores of the Mediterranean.

Habitat: Dense undergrowth in damp localities.

Genus CISTICOLA.

FANTAILED WARBLER.

Cisticola cursitans (*Frankl.*)

Adult: Feathers of foreparts *above* very broadly centred with *dark brown*, and *with pale yellowish-brown margins;* crown so marked as to form three distinct longitudinal bands; wings and tail dark brown with pale edges; *outer tail-feathers* tipped with white, *with a subterminal dark spot*, showing most plainly from below; beneath white, shading into yellowish-brown on chest and flanks; bill brown above, yellowish beneath; legs and feet flesh-coloured; irides pale brown. Length 4·25 inches; culmen 0·35; wing 1·9; tail 1·5; tarsus 0·7.

Young: More rufous both above and beneath, otherwise similar to adults.

Distribution: Resident on most of the Mediterranean coasts.

Habitat: Damp grassy places or undergrowth near water.

Family ACCENTORIDÆ.

Genus ACCENTOR.

ALPINE ACCENTOR.

Accentor collaris (*Scop*).

Adult: Feathers of head and neck grey, with darker centres; rest of upper parts brown, streaked with darker brown; wings and tail dark brown with reddish-brown margins and white tips; greater and median wing-coverts conspicuously spotted with white; feathers of breast and abdomen dull grey, marked with brown and tipped with whitish; *throat white, spotted with black*, flanks chestnut, margined with buffish-white; bill blackish-brown, yellowish at base; legs and feet brown, claws black; irides brown. Length 7·5 inches; culmen 0·5; *wing 4·15 to 4·3;* tail 3; tarsus 1·9.

Nestling: Spotted above and below like a young robin; tail broadly tipped with dull rufous; beneath buffy-white.

Young after first moult: Feathers on back with rufous edges, duller beneath, washed with buff; white on throat absent; otherwise similar to adult.

Distribution: Resident in the higher mountain regions of Southern Europe, occurring in Great Britain and Northern Europe only as a rare straggler.

Habitat: Elevated rocky places, in similar localities to the Stonechat.

MOUNTAIN ACCENTOR.

Accentor montanellus (*Pall*).

Adult: Crown brown and black, *sides of head black; broad buff superciliary stripe* from base of bill to nape; back chestnut, margined with greyish-brown, wings and tail dark brown with lighter margins; coverts and secondaries marked with chestnut; beneath buff, becoming paler on abdomen; flanks slightly streaked with brown; bill blackish; legs light brown; irides brown. Length 6 inches; culmen 0·5; wing 2.85; tail 2·6; tarsus 0·75.

Female: Duller above and somewhat whiter beneath.

Young in first plumage: Similar to adult, but paler throughout and throat and breast marked with brown.

Distribution: A scarce visitant to the extreme east of Europe from Eastern Asia. Breeds in Northern Siberia.

Habitat: Elevated forests.

HEDGE ACCENTOR. ✓

Accentor modularis (*Linn*).

Adult: Crown and nape brownish-grey streaked with brown; back and scapulars blackish, broadly margined with reddish-brown; quills dark brown, tipped and edged with lighter brown; tail dull brown with paler margins; *sides of head and chest ashy-grey*, paler on chin; centre of abdomen greyish-white; flanks brown, marked with darker brown; bill blackish;

legs, feet and claws brown; irides hazel. Length 5·5 inches; culmen 0·4; *wing 2·7;* tail 2·3; tarsus 0·75.

Young: Browner and more spotted than adults; no slate-grey on head or throat.

Distribution: Resident over most of Europe, occurring in Scandinavia as far north as the forest regions continue. Found throughout the British Isles, excepting in some of the Hebrides and in Shetland.

Habitat: Gardens, hedge-rows, plantations, &c.

Family CINCLIDÆ.

Genus CINCLUS.

DIPPER OR WATER OUSEL.

Cinclus aquaticus *Bechst.*

Adult: *Above blackish-brown*, shading into umber-brown on neck and head; back, wings and rump marked with greyish; a narrow ring round eyes white; chin, *throat and breast white;* rest of under parts chestnut, shading into black at vent and into greyish on flanks; bill black; legs, feet and irides brown. Length 6·5 to 7 inches; culmen 0·65; wing 3·5 to 3·75; tail 2·2; tarsus 1.

Young: Paler and greyer on the back than adults; under parts creamy-white, excepting flanks and region of the vent which are slaty-brown; feathers of breast and abdomen here and there tipped or margined with brown.

Distribution: Inhabits Great Britain and many of the mountain regions of Central Europe.

Habitat: Rocky, mountain streams.

Note.—In Scandinavia, Northern Germany and Northern Russia a race occurs with an almost uniformly black abdomen (*C. melanogaster* of many authors), whilst in the Pyrenees, Alps, Carpathians, &c., a form with a paler back and more white on the under parts than typical *C. aquaticus* is found. This latter has received the name of *C. albicollis*. In other respects all three forms are precisely alike and their young indistinguishable.

Family PANURIDÆ.

Genus PANURUS.

BEARDED TIT. ♂

Panurus biarmicus (*Linn*).

Adult Male (Summer): Crown grey; back and rump orange-tawny; first six primaries externally edged with white, rest of quills externally edged with rufous; innermost secondaries internally edged with whitish; scapulars nearly white; *tail-feathers (graduated) and upper coverts fawn-coloured;* outer rectrices whitish at tips; lores and *long feathers on either side of throat black;* throat and chest white, sides of latter tinged with rose; breast and abdomen tawny, shading into orange-tawny on flanks; *under tail-coverts*, legs and feet *black*; bill yellow; irides yellow. Length 6 to 6·5 inches; culmen 0·3; wing 2·25; tail 3·25; tarsus 0·7.

Adult Female (Summer): Crown dull fawn; *no black* neck-feathers; under tail-coverts pale tawny, otherwise closely resembles male but somewhat duller.

Adult Male (Winter): Slightly duller in coloration above than in summer, white on wings and tail more tinged with buff.

Nestling: General colour pale fawn, patched on back and wings with black: males with black lores; legs pale brown.

Young after first moult: Pale fawn; the *back* centrally *striped with black;* outer tail-feathers black, tipped underneath with white.

Distribution: Resident in Europe and Central Asia in suitable localities; in England confined to Norfolk and Cambridgeshire.

Habitat: Reed beds.

Family PARIDÆ.

Genus ACREDULA.

WHITE-HEADED LONG-TAILED TIT.

Acredula caudata (*Linn*).

Adult: *Entire head and under parts white;* nape, centre of back and tail-feathers black; sides of neck, back, and *scapulars vinous;* rump tinged with rose; quills blackish-brown, white at base on inner web; secondaries externally margined with white, innermost almost entirely white; outer tail-feathers tipped and margined with white; faint vinous tinge on flanks and under tail-coverts; bill, legs and feet black; irides brown. Length 6 inches; culmen 0·25; wing 2·5; *tail 3·5;* tarsus 0 6.

Young: Crown conspicuously white; above the eye, sides of head, nape, back and central tail-feathers sooty black (not pure black); white on secondaries more conspicuous and pure; flanks and under tail-coverts tinged with vinaceous; bill blackish; gape yellow; legs and feet yellowish.

Distribution: Resident in Northern and Central Europe; has occurred in Great Britain.

Habitat: Wooded districts.

Note.—In the British Isles a race known as *A. rosea* occurs which differs from the typical *A. caudata* in having much less white upon the crown and being of a generally duller tint. On the continent this race is found in France (including the Eastern Pyrenees), in the Netherlands and part of Germany where it interbreeds with the type. In the South of France, Spain, Northern Italy and Sicily another race is found, known as *A. irbii* which is characterised by having the scapulars grey. Both of the above races closely resemble the typical *A. caudata* in all other respects than those alluded to.

TURKISH LONG-TAILED TIT.

Acredula tephronota (*Günther.*)

Adult: Head as in *A. rosea*; back bluish-grey; central tail-feathers black externally bordered with grey, especially towards

bases; outermost rectrices almost entirely white; chin whitish; *lower throat almost black, forming a distinct spot;* breast and centre of abdomen whitish, streaked on former with greyish-brown; flanks and vent pale rose; bill, legs and feet black; irides light brownish-red. Length 4·8 inches; culmen 0·25; wing 1·35; tail 2·8; tarsus 0·17.

Distribution: Resident in Turkey, Asia Minor and Persia.

Habitat: Similar to *A. caudata.*

Genus PARUS.

GREAT TIT. ✓

Parus major *Linn.*

Adult: *Crown* and throat *glossy black* with deep blue lustre; cheeks and portion of nape white; back yellowish-green; quills blackish, margined externally with grey; tail washed with dark grey; *beneath*, sides of body dull *greenish-yellow;* chest and *centre of abdomen black;* bill black; legs and feet plumbeous; irides dark brown. Length 5·8 inches; culmen 0·4; *wing 3;* tail 2·5; tarsus 0·75.

Adult Female: Similar, but slightly paler in coloration.

Young: Similar to adult female, but much duller and black stripe on abdomen less noticeable.

Distribution: Resident in the British Islands, Central and Southern Europe, Eastern Asia, and in parts of Northern Africa.

Habitat: Forests, plantations, gardens, &c.

COAL TIT. ✗

Parus ater *Linn.*

Adult: *Head*, sides of nape, throat and chest glossy *black; cheeks and sides of neck white; back slaty-blue;* rump washed with brown; wings and tail greyish-black, margined with light grey; abdomen whitish; flanks washed with buff; bill blackish; legs and feet lead colour; irides brown. Length 4·25 inches; culmen 0·3; wing 2·45; tail 1·8 to 2; tarsus 0·65.

Young: Head duller, not glossy; white parts tinged with yellow.

Distribution: Resident in most parts of Europe, and in North-western Asia. Has occurred in Great Britain.

Habitat: Forests, plantations and gardens.

Note.—In Great Britain a race of Coal Tits occurs which have olive-brown backs, though in specimens from some localities this colour is less apparent than in others. This race has been named by Mr. Dresser, *P. britannicus*, whilst birds from Cyprus show more distinctly brown still, less white upon the nape, and more black upon the throat. This race has received the name of *P. cypriotes*. In both these cases the influence of climate is apparent, and for the same reason as with *Acredula rosea* and *A. irbii*, they are not included as specifically distinct.

MARSH TIT.

Parus palustris *Linn.*

Adult: *Crown and centre of nape dull black;* sides of head and nape whitish; *back greyish-brown;* wings and tail dark brown, former with pale margins; bases of chin and chest feathers black; breast and abdomen whitish; flanks washed with buff; bill black; legs and feet lead colour; irides brown. Length 4·5 inches; culmen 0·3; wing 2·5; tail 2·2; tarsus 0·55.

Young: General coloration less bright.

Distribution: Commonly resident throughout Central Europe, but is scarcer in Southern Europe.

Habitat: Woods, hedgerows and swampy places.

Note.—The Marsh Tit varies considerably according to climate in the tint of its back and the extent of black on the nape. In Russia, Scandinavia, the Alps and Carpathians, a large race occurs in which the black extends low down upon the back, which is very grey (*Parus borealis*—De Selys). In North-east Russia a still larger and paler form occurs with a longer tail (*P. baicalensis*—Swinh). British-killed examples are somewhat browner on back and flanks than the type.

SOMBRE TIT.

Parus lugubris *Temm.*

Adult Male: Entire crown, upper part of nape, *throat and*

sides of throat deep sooty-black; back ashy-brown; *wings and tail* greyish-brown *with white edges;* breast and abdomen white, the former slightly shaded with brown on sides; bill, legs and feet lead-colour; irides dark brown. Length 5·25 to 5·5 inches; culmen 0·3; *wing 2·85;* tail 2·4; tarsus 0·75.

Adult Female: Similar, but has the black parts browner.

Adult (Winter): Similar, but duller. The white parts being tinged with brown, and the back feathers edged with brown.

Young: Differs from adult in having crown distinctly brown: throat pale sooty-brown; under surface pale brownish-white.

Distribution: Resident in Hungary, Greece, Southern Russia, Asia Minor, and Palestine.

Habitat: Woods and olive groves.

LAPP TIT.

Parus cinctus *Bodd.*

Adult: *Crown dull brown*, this colour extending far on to back; superciliary region dark brown; *back hazel-brown;* primaries blackish, externally margined with whitish; tail black, washed with grey, outer feathers edged with white; sides of head and neck white; *throat brownish-black*; breast and abdomen rust-colour, shading to whitish in centre; bill black, legs and feet pale violet; irides reddish-brown. Length 5·2 inches; culmen 0·35; wing 2·8; *tail 2·8;* tarsus 0·7.

Young: Much paler than adult and with a greyer tinge: the dull brown of the head not extending so far on to the back.

Distribution: Breeds commonly in Lapland.

Habitat: Birch and pine woods.

BLUE TIT. ✓

Parus cæruleus *Linn.*

Adult: *Crown light blue*, surrounded by white; collar and line through eye black; nape and cheeks white; back yellowish-green, paler on rump; *wings* blackish *with blue external margins*, crossed by single bar of white and innermost

secondaries tipped with white ; chin and throat bluish-black ; breast dull lemon-yellow, with a mesial dark stripe ; bill dusky ; legs and feet dark grey ; irides dark brown. Length 4·5 inches ; culmen 0·26 ; wing 2·5 ; tail 2·1 ; tarsus 0·65.

Adult in Winter : Similar but the throat-feathers edged with white.

Young in first plumage : Crown and collar very dull brownish and not conspicuous ; back dull greenish ; under parts, including throat, dirty yellow.

Distribution : Common resident in Central and Southern Europe, including Great Britain.

Habitat : Woods, gardens and hedgerows.

AZURE TIT.

Parus cyanus *Pall.*

Adult : *Head chiefly white ;* line through eye to back of head and neck band deep blue ; back bluish-grey ; *wings blue, crossed by band of white ;* secondaries broadly tipped with white ; tail-feathers blue, outer ones broadly tipped and margined with white ; beneath white with a mesial stripe of bluish-black ; bill blackish ; legs and feet lead colour ; irides dark brown. *Length 5·3 inches ;* culmen 0·35 ; wing 2·7 ; tail 2·7 ; tarsus 0·65.

Young : Have no blue on back of neck ; crown and eye-stripe dark grey ; white parts tinged with yellow ; blue on wings and tail not so deep as in adults.

Distribution : Resident in Northern Russia and Siberia, straying occasionally into Germany.

Habitat : Willow swamps, tamarisk jungles, &c.

CRESTED TIT.

Parus cristatus *Linn.*

Adult : *Head black, each feather tipped with greyish-white ; those towards back of head much elongated,* forming a conspicuous crest ; sides of head and neck greyish-white, latter crossed by two bands of black, a narrow line of same colour traversing

the eye; *back*, wings, and tail *hair-brown*, quills darker; rump tinged with buff; *throat black;* rest of under parts whitish, flanks tinged with buff; bill black; legs and feet lead colour; irides brown. Length 4·6 inches; culmen 0·3; wing 2·4; tail 2; tarsus 0·7.

Young: Similar to adults, but have shorter crests.

Distribution: Inhabits Northern and Central Europe. Breeds in some Scotch forests, but is very scarce elsewhere in Great Britain.

Habitat: Fir forests, or deciduous woods.

Genus ÆGITHALUS.

PENDULINE TIT.

Ægithalus pendulinus (*Linn.*)

Adult Male: *Crown*, nape, *and throat white*, slightly tinged with grey; forehead, *sides of head and ear-coverts black; forepart of back chestnut*, becoming ochreous towards rump; wings and tail blackish, edged with white; breast whitish, tinged with yellow and somewhat marked with chestnut; bill horn-colour, sharply pointed; legs and feet black; irides brown. Length 4·25 inches; culmen 0·35; wing 2·15; tail 1·9; tarsus 0·5.

Adult Female: White parts greyer; general plumage a little duller; less black on the head.

Young: Head ashy-grey, with no black; back cream-coloured with no chestnut; wings and tail margined with buffish-white or buff.

Distribution: Resident in Southern Europe, ranging eastward into Turkestan.

Habitat: Woods, among poplar, alder and willow, &c.

CHESTNUT-CROWNED TIT.

Ægithalus castaneus *Severtz.*

Adult Male: *Crown*, nape and back *chestnut*, shading into ochreous towards rump; *wings and tail* as in *Æ. pendu-*

linus, but *with* much *broader white borders* to feathers; forehead, sides of head and ear-coverts black; chin and throat white; breast and abdomen white tinged with buff, former heavily marked with chestnut; bill horn-coloured, legs and feet black; irides brown? Length 4·2 inches; culmen 0·35; wing 2·25; tail 2; tarsus 0·58.

Adult Female: Crown and nape pale isabelline; forepart of crown marked with chestnut; back paler than in male, feathers tipped with cream-colour; under parts white, tinged with cream-colour; throat white.

Young Males: Show less deep chestnut on crown and have a creamy-white nape.

Distribution: Resident in South-eastern Russia.

Habitat: Similar to *Æ. pendulinus*.

Family SITTIDÆ.

Genus SITTA.

NORTHERN NUTHATCH.

Sitta europæa *Linn.*

Adult: *Upper parts slaty-blue*; a black line running from base of bill through eyes and down sides of neck; central tail-feathers grey, outer ones black at bases, banded with white and tipped with grey; *beneath white or tinged with buff* on hinder parts; flanks and under tail-coverts marked with chestnut; bill dark horn-colour, whitish at base beneath; legs and feet pale brown; irides hazel. Length 5·75 inches; culmen 0·7; *wing 3·5*; tail 2; tarsus 0·75.

Young in first plumage: Feathers above showing white shafts, especially on fore parts; black on sides of head browner and not so distinct; bill shorter and paler; legs and feet very pale; chestnut markings not so bright as in adult.

Distribution: Resident in Scandinavia and Western Russia.

Habitat: Deciduous woods.

SOUTHERN NUTHATCH.

Sitta cæsia *Wolf.*

Adult: Upper parts as in *S. europæa*, though perhaps slightly duller, *beneath brownish buff*, shading into whitish on chin; flanks washed with chestnut; bill horn-colour; legs and feet pale brown; irides hazel. Length 5·5 inches; culmen 0·65; *wing 3·35;* tail 1·8; tarsus 0·7.

Young: Beneath duller and browner, chestnut showing chiefly on under tail-coverts; otherwise very similar to adult.

Distribution: Inhabits Central Europe, including Great Britain, and is found in Asia Minor and Palestine.

Habitat: Similar to *S. europæa.*

SYRIAN ROCK NUTHATCH.

Sitta neumayeri *Mich.*

Adult: Upper parts slaty-grey; a black line from base of bill through the eye down sides of neck; wings and tail dull greyish-brown, latter tinged with russet; throat and breast white; *flanks, abdomen and under tail-coverts almost uniform pale russet*; bill horn-colour; legs and feet lead colour; Male: Length 5·6 inches; culmen 0·8; wing 3; tail 2; tarsus 0·8. Female: slightly larger.

Young: Similar, but generally paler, sides of head slightly tinged with buff; wings and tail rather greyer.

Distribution: Inhabits Greece, Asia Minor and Syria; has been recorded also from Spain.

Habitat: Rocky ravines, cliffs.

CORSICAN NUTHATCH.

Sitta whiteheadi *Sharpe.*

Adult Male: Above slaty-blue, *shading into black on the crown;* quills brown, the outer webs washed with slaty-blue; central rectrices like the back, the rest black at base, the outermost three pairs blue at tips; narrow frontal band and superciliary stripe greyish-white; lores and ear-coverts black; *beneath*

ashy isabelline, washed on flanks with grey; under tail-coverts margined with white; bill slaty-grey. Length 4·6 inches; culmen 0·65; wing 2·75; tail 1·4; tarsus 0·65.

Adult Female: Very nearly resembles the male but has a slaty-blue head, the feathers showing black bases; eye-stripe less conspicuous.

Distribution: Known only from the mountains of Corsica.

Habitat: Elevated pine forests.

Family CERTHIIDÆ.

Genus CERTHIA.

CREEPER.

Certhia familiaris *Linn.*

Adult: Crown dark brown, centres of feathers whitish; superciliary streak whitish; neck and *back* yellowish-*brown, streaked with whitish;* wings brown, banded with white or yellowish-white; *tail graduated with stiff points*, dull reddish-brown; beneath silvery-white, tinged on sides and vent with rufous; *bill strongly decurved, slender*, dark brown, yellowish beneath; legs and feet light brown; irides hazel. Length 5 to 5·2 inches; culmen 0·65; wing 2·5; tail 2·55; tarsus 0·5.

Nestling: Plumage fluffy; browner above and whitish mottlings more conspicuous.

Distribution: Resident throughout most of Europe in wooded localities.

Habitat: Woods and groves, especially of deciduous trees.

Note.—Examples from South Europe are darker brown above, and the markings, if anything, whiter and more conspicuous.

Genus TICHODROMA.

WALL CREEPER.

Tichodroma muraria (*Linn.*)

Adult Male (Summer): Head, neck, *back* and scapulars

pale *slaty-grey*, much darker on rump; lesser coverts and parts of greater coverts and *basal half of quills crimson;* quills otherwise dark brown with conspicuous white spots on longest primaries, and whitish tips; tail black, tipped with grey, outer feathers tipped with white; chin, throat and chest black, rest of under parts dark grey; bill (long and decurved) black; legs and feet black; (irides black—Bailly). Length 6·5 inches; culmen 1·4; wing 3·9; tail 2·2; tarsus 0·85.

Adult Female (Summer): Similar, but black on throat not so much developed.

Adult (Winter): Black on chin and throat replaced by greyish-white; crown dirty grey; back much paler.

Young in first plumage: Similar to adults in winter, but have the beak shorter and straighter, the red in the wings less conspicuous.

Distribution: Resident in the mountainous districts of Southern Europe. Fairly abundant in some parts of the Pyrenees and Sierra Nevada. Has been known to occur in England.

Habitat: High mountain cliffs, descending in winter onto the walls and cliffs of the valleys.

Family TROGLODYTIDÆ.

Genus TROGLODYTES.

COMMON WREN.

Troglodytes parvulus *Koch.*

Adult: *Upper parts reddish-brown, barred with dark brown:* superciliary stripe whitish; wings and tail rufous-brown, more barred; greater wing-coverts spotted with whitish; beneath greyish-brown, whiter on throat and more rufous on flanks which are transversely barred; bill brown; legs, feet and claws light brown; irides brown. Length 3·9 inches; culmen 0·4; *wing 1·9;* tail 1·3; tarsus 0·6.

Nestling: Above like adult; bill pale and short; under parts much more mottled, and flanks browner.

Distribution: Common and resident in temperate Europe,

including the British Isles; found also in Northern Africa and Western Asia.

Habitat: Woods, copses, gardens and undergrowth generally.

NORTHERN WREN.

Troglodytes borealis *Fisch.*

Adult: Similar to *T. parvulus*, but larger and darker above; more barred beneath; wings longer and feet much larger and stronger. Length 4·1 inches; culmen 0·5; *wing 2*; tail 1·45; tarsus 1·8.

Distribution: Resident in Iceland and the Faröes.

Habitat: Generally near habitations, among rocks and outbuildings.

Family MOTACILLIDÆ.

Genus MOTACILLA.

WHITE WAGTAIL.

Motacilla alba *Linn.*

Adult Male (Summer): Fore part and sides of head and sides of neck white; *hinder crown and nape deep black; back clear ash-grey*, darker on rump; wings dusky, margined with whitish; central tail-feathers black; outer feathers white, inwardly edged with black; chin, throat and chest black; rest of under parts white, shaded with grey on flanks; bill, legs and feet black; irides dark brown. Length 7·3 inches; culmen 0·5; wing 3·3; tail 3·6; tarsus 0·85.

Adult Female (Summer): White on sides of head not so clear; black on nape and throat not so extended, the latter mottled with white.

Adult (after Autumn moult): Black on head slightly intermixed with greyish; throat white, mottled with black on sides; sides of body much shaded with grey.

Young in first plumage: Upper and under parts dull

grey, more or less tinged with olive, shading into white on abdomen; wings and tail much as in adults, but duller.

Distribution: A summer visitant to Northern Europe, commonly nesting, except in the British Isles, where it is scarce. Resident in some parts of Southern Europe. Winters also in North Africa.

Habitat: The vicinity of water, or moist meadows.

PIED WAGTAIL. ✓

Motacilla lugubris *Temm.*

Adult Male (Summer): Head and throat as in *M. alba*: *back black*: wings black, with white external margins; innermost secondaries bordered broadly with white; tail-feathers black, except outermost ones, which are white on outer webs; breast and abdomen white, flanked with dark grey; bill, legs and feet black; irides dark brown. Length 7·5 inches; culmen 0·45; wing 3·6; tail 3·75; tarsus 0·85.

Adult Female (Summer): Back feathers mixed with grey ones, and slightly smaller.

Adult (Winter): Crown, nape and broad band on chest black; cheeks washed with sulphur-yellow; back leaden-grey, centres of feathers usually showing blackish; upper tail-coverts black; lower breast and abdomen as in summer, but grey on flanks paler.

Young in first plumage: Back dirty grey; throat and chest marked with black; whole of light parts more or less tinged with buff.

Distribution: Common and resident in Great Britain. In Western Europe elsewhere a summer visitant, wintering in Western part of North Africa.

Habitat: Similar to that of preceding species.

YELLOW-HEADED WAGTAIL.

Motacilla citreola *Pall.*

Adult Male (Summer): *Head* and neck bright *yellow*, collar black; *back grey*; wings dusky, some of quills and coverts

broadly margined with white externally; tail black, outermost feathers chiefly white; beneath yellow like head and neck, flanked with slaty; bill, legs and feet blackish; irides brown. Length 6·5 inches; culmen 0·5; wing 3·4; tail 3·25; tarsus 0·95.

Adult Female (Summer): Head and neck greyish; back brownish-grey; wings duller; sides of face marked with dark grey; sides of neck marked with black; superciliary stripe yellow; under parts as in male.

Adult Male (Winter): Forehead yellow; superciliary stripe broad; abdomen pale yellow, otherwise as in female, but back somewhat darker.

Young in first plumage: Back feathers with dark centres; a band of black on chest; breast washed with yellowish-buff.

Young in Autumn: Above dull greyish, washed with yellowish-brown; superciliary stripe yellowish-white; broad mark on sides of head greyish; beneath whitish, tinged with pale yellow; chest marked with greyish-brown.

Distribution: Summer visitant to Eastern and South-eastern Russia. Winters in Northern India, where it is not uncommon. Found as far east as China.

Habitat: In grassy swamps, willow thickets, &c.

GREY WAGTAIL.

Motacilla melanope *Pall.*

Adult Male (Summer): *Above grey*, shading into greenish-yellow on rump; superciliary stripe white; wings and central tail-feathers dark brown; long secondaries conspicuously bordered with whitish; outer tail-feathers white; chin and *throat black*, rest of under parts bright *yellow, brightest on under tail-coverts;* bill, legs and feet brown; irides dark brown. Length 7·75 to 8 inches; culmen 0·5; wing 3·2; tail 4; tarsus 0·8.

Adult Female: Similar to male, but much paler throughout.

Adult (Winter): Breast and superciliary stripe pale whitish-yellow; chin and throat whitish; abdomen only tinged with yellow.

Young: Similar to adults in winter but greener above;

some of coverts with greyish tips; fore neck marked with greyish; breast washed with reddish-grey.

Distribution: Resident in Central and Southern Europe, including Great Britain, ranges across Central Asia, wintering in India, Persia, and Northern Africa.

Habitat: Near streams or in damp grassy places.

BLUE-HEADED WAGTAIL.

Motacilla flava *Linn.*

Adult Male (Summer): *Crown, nape and ear-coverts grey; eye-stripe distinct, white;* back greenish-yellow; quills dark brown; wing-coverts broadly edged with yellow; tail dark brown except outermost feathers which are chiefly white; chin white, *rest of under parts bright yellow;* bill, legs, and feet dark brown; irides brown. Length 6 inches; culmen 0·4; wing 3·25; tail 3; tarsus 0·85.

Adult Female (Summer): Above paler, fore parts with slight olivaceous tinge; eye-stripe less distinct; under parts much paler yellow.

Adults (Winter): Upper parts washed with olive-brown.

Young: Upper parts greyish-brown; eye-stripe distinct, but buffish; lores and ear-coverts darker than in adult; beneath dull white, tinged with yellow on abdomen; chest and flanks washed with brown.

Distribution: Breeds in Central Europe and Central Asia; occasionally found in England. Winters in Southern Europe, Africa, and Hindostan.

Habitat: Swamps and damp meadows.

GREY-HEADED WAGTAIL.

Motacilla viridis *Gmel.*

Adult Male (Summer): Very similar to *M. flava*, but has the upper parts, if anything, a trifle darker, *no superciliary stripe*, and the lores and *ear-coverts darker than the crown.* Bill, legs, feet and irides dark brown. Length 6·25 to 6·5 inches; culmen 0·45; wing 3; tail 3; tarsus 0·85.

Adult Female (Summer): Paler both above and beneath; otherwise similar to the male.

Young are characterized by the absence of any white eye-stripe, which is very noticeable in the young of *M. flava*.

Distribution: Breeds in Northern Europe and Asia. Has been reported from England.

Habitat: Similar to that of *M. flava*.

BLACK-HEADED WAGTAIL.

Motacilla melanocephala *Licht.*

Adult Male (Summer): *Crown*, nape, lores *and sides of head jet-black;* chin and rest of *under parts* uniform bright *yellow;* otherwise as in *M. flava*. Length 6·7 inches; culmen 0·5; wing 3·25; tail 3; tarsus 0·95.

Adult Female: Head not so black as in male; back greener; chin yellowish-white; paler yellow beneath.

Young: Very similar to young of *M. flava;* but the crown always shows as dark or darker than the sides of the head; sides of chest slightly marked with blackish.

Distribution: South-eastern Europe and Central Asia, wintering in Africa.

Habitat: Marshy land, or low ground near the sea.

YELLOW WAGTAIL.

Motacilla raii *Bp.*

Adult Male (Summer): *Above green, yellower on crown;* superciliary stripe yellow; quills dark brown; wing-coverts and innermost secondaries broadly edged with yellowish-white; central rectrices dark brown, outermost ones chiefly white; *beneath* rich *yellow;* bill, legs and feet black; irides dark brown. Length 6·5 inches; culmen 0·5; wing 3·25; tail 3; tarsus 0·9.

Adult Female (Summer): Similar but less brilliant throughout; back browner.

Adult (Winter): Much paler throughout than in summer dress.

Young after first moult: Similar to adult, but a shade

darker and more uniform above, with a crescentic band of dark brown spots across the chest.

Distribution: Breeds in Central and Western Europe; scarce in Ireland. Winters in Africa.

Habitat: Open country, ploughed fields, or damp pastures.

Genus ANTHUS.

TREE PIPIT. ✓

Anthus trivialis (*Linn.*)

Adult (Summer): *Feathers above*, including wings and most of tail-feathers, *dark brown with paler edges;* outermost tail-feathers about half white; beneath pale buff, shading into white on abdomen and into whitish-buff on throat; sides of throat, chest and flanks spotted with dark brown; bill and irides dark brown, legs and feet lighter brown. Length 5·75 to 6 inches; culmen 0·45; wing 3·4; tail 2·6; tarsus 0·8; *hind claw much curved, 0·4.*

Adult (Winter): Similar, but greener above and yellower on the throat.

Young: Easily distinguishable from young of *A. pratensis* by the short, curved hind claw; in general appearance very similar to adults in winter.

Distribution: A summer visitant to Central and Northern Europe and Asia, wintering in Africa, Persia, and India.

Habitat: Woods, fields, and cultivated regions generally.

MEADOW PIPIT. ✓

Anthus pratensis (*Linn.*)

Adult (Summer): Feathers *above* dark brown, edged with pale brown and *tinged with olivaceous;* wings, tail, and under parts very similar to *A. trivialis*, but the spots on breast are, if anything, more shaded; bill blackish, yellowish at base beneath; legs and feet light brown; irides dark brown. Length 5·75 to 6 inches; culmen 0·45; wing 3 to 3·5; tail 2·3; tarsus 0·8; *hind claw very straight, 0·55.*

Adult (Winter): Strongly tinged with olivaceous above and washed with yellowish-buff beneath.

Young: Like adults in winter dress.

Distribution: Resident and breeding throughout most of Europe, those inhabiting the extreme north migrating south in autumn.

Habitat: Fields, commons, high moors, among stones in streams, &c.

Note.—A Pipit inhabiting the Canary Isles has received the name of *A. bertheloti*, and is distinguished from typical *A. pratensis* by being greyer above, with an unspotted rump and with a shorter wing.

RED-THROATED PIPIT.

Anthus cervinus (*Pall*).

Adult Male (Summer): Feathers *above olive-brown* boldly marked with dark brown, wings and tail dark brown, margined with paler brown, outermost rectrices chiefly white; *throat*, round the eye, sides of neck and chest *ferruginous;* abdomen buff; chest and flanks sparsely striped with dark brown; bill brown, yellowish at base beneath; legs and feet paler brown; irides brown. Length 6 to 6·25 inches; culmen 0·45; wing 3·4; tail 2·6; tarsus 0·8.

Adult Female (Summer): Greyer above than male; ferruginous tint not extending below the throat.

Adult (Winter): With difficulty distinguished from *A. pratensis;* the wing however is longer, the mantle feathers tipped with white, and in some rare instances the throat is tinged with red; general tint greyish-brown.

Young: Almost exactly similar to young of *A. pratensis*, but are somewhat more buff throughout; lower back feathers rather greyer; a rufescent tinge round the eye soon attained.

Distribution: Summer visitant to arctic Europe and Asia. A straggler only to Great Britain and has not been recorded from Iceland or the Faroes. Winters in North-eastern Africa and South of Asia.

Habitat: Long grass in boggy regions.

PETCHORA PIPIT.

Anthus gustavi *Swinh.*

Adult: Above glossy yellowish-brown, paler on head and nape, boldly marked especially on interscapular feathers with dark brown; elongated secondaries, wing-coverts and some of back feathers conspicuously margined with buffish-white; *bill stronger than in either A. pratensis or A. trivialis; length of hind claw intermediate between the two.* Length 6 inches; culmen 0·45; wing 3·15; tail 2·15; tarsus 0·85.

Distribution: A summer visitant to North-eastern Europe.

Habitat: Marshy ground covered with scrub.

TAWNY PIPIT.

Anthus campestris (*Linn*).

Adult Male: Feathers of *upper parts greyish-brown*, with darker centres, and edged with sandy-brown; wings and central tail-feathers dark brown, edged with sandy-brown; *beneath buff* (or brownish buft), shading to whitish on abdomen; chest indistinctly spotted; bill above dark brown, paler beneath; legs and feet pale brown; irides dark brown. Length 6·5 to 6·75 inches; culmen 0·6; *wing 3.75 to 3.9;* tail 3·2; tarsus 0.95.

"From the autumn moult to the early part of the following spring the tints are much more tawny, and in young birds are very pronounced on the margins of the wing and tail-feathers, while the brown markings of the upper parts and of the breast are much more intense" (Saunders).

Distribution: Breeds in Central and Southern Europe, wintering in Africa and India. Scarce visitor to Great Britain.

Habitat: Open sandy plains.

WATER PIPIT.

Anthus spipoletta (*Linn*).

Adult Male (Summer): Feathers above olive-brown

with greenish hue, lighter on rump; all feathers above the rump with darker centres; wings and tail dark brown with pale margins; outermost rectrices largely white; *superciliary stripe buffish-white*, distinct; *beneath buff with vinous tinge*, shading into whitish on centre of abdomen and throat; bill, legs and feet blackish; *hind claw long and little curved;* irides dark brown. Length 6 inches; culmen 0·5; wing 3·25 to 3·5; tail 2·5 to 2·8; tarsus 0·8 to 1.

Adult (Winter): Loses greenish tinge above and becomes more hair brown; whitish beneath; throat, chest and abdomen streaked with brown, with no vinous tinge.

Young: Similar to adult in winter.

Distribution: Breeds in the high mountain regions of Central Europe and in some parts of Spain, occurs in other parts of Europe on migration, winters in Northern Africa, Palestine, &c.

Habitat: Mountainous districts; in stony places.

ROCK PIPIT.

Anthus obscurus (*Lath*).

Adult Male (Summer): Feathers above olivaceous, obscurely streaked with dark brown, less marked on rump; wings and *tail dark brown throughout*, the former edged with paler brown and latter with olivaceous; beneath buffish-yellow; eye-stripe of same colour moderately distinct; throat, *breast* and flanks marked and *shaded with dark* or olive *brown;* bill, legs and feet brown; hind claw much curved; irides brown. Length 6 to 6·5 inches; culmen 0·55; wing 3·5; tail 2·65; tarsus 0·9.

Adult (Winter): Generally paler; whiter beneath and less streaked; centre of throat unmarked.

Young in first plumage: Darker both above and beneath; more heavily spotted below except on throat; spots on back more obvious than in adult.

Distribution: Summer visitant to Northern Europe, wintering in the Central and Southern portions.

Habitat: Rocky localities, generally on or near the sea coast.

Note.—A vinous-breasted form is sometimes found in Scandinavia.

RICHARD'S PIPIT.

Anthus richardi *Vieill.*

Adult: Feathers of upper parts dark brown, edged with yellowish-brown, duller towards tail; superciliary stripe buff, distinct; wings and tail dark brown, former with coverts and quills margined with whitish or pale buff; outermost rectrices chiefly white; chin, throat and centre of abdomen white; chest, sides of throat and flanks buff, tinged with rufous; breast banded by blackish, lanceolate spots which extend by two lines on either side of the throat to the bill, which is dark brown, yellowish beneath; legs and feet yellowish brown; irides brown. *Length 7·25 to 8 inches;* culmen 0·6; wing 3·75; tail 3·25; tarsus 1·2; *hind toe with claw over 1 inch.*

Young: Similar, but breast more spotted, and some of feathers above margined with white.

Distribution: An inhabitant of Central Asia, occurring casually in various parts of Europe during migration. Winters in Southern Asia and North-eastern Africa.

Habitat: Damp meadows in elevated regions.

Family ORIOLIDÆ.

Genus ORIOLUS.

GOLDEN ORIOLE.

Oriolus galbula *Linn.*

Adult Male: Entire *head* (except lores which are black) upper *and under parts bright yellow; wings black*, with an alar *speculum* of *yellow*, and bastard wing partly yellow; several of quills margined and tipped with yellowish-white; central tail-feathers chiefly black, outer tail-feathers broadly tippped with yellow; bill orange-brown; legs and feet plumbeous; irides red. Length 9 to 9·5 inches; culmen 0·95; wing 6; tail 3·5; tarsus 0·8.

Adult Female: Above green, becoming yellower towards the tail, which is brown tinged with yellow at base, and tipped

with yellow; wings dark brown, margined and tipped with whitish. Lores brown; under parts dull white, feathers centrally streaked with brown; flanks washed with yellow.

Young in first plumage: Yellowish-grey above, with brownish centres to most of the feathers; wings and tail as in adult female; beneath yellowish-white, lined with brown; flanks and under tail-coverts yellow.

Young Male in Spring: Similar to adult female, but yellower above; tail-feathers shaded throughout and tipped with yellow; upper tail-coverts very yellow; throat and breast ground-colour, almost obscured by the overlying markings of brown; rest of under parts whitish, and streaked with brown; flanks, vent and under tail-coverts pale yellow. (N.B. Adult plumage is assumed very gradually.)

Distribution: Breeds throughout Central and Southern Europe, Persia and Turkestan; has been known to breed in England occasionally. Winters in Southern Africa.

Habitat: Woods and gardens.

Family LANIIDÆ.

Genus LANIUS.

GREAT GREY SHRIKE.

Lanius excubitor *Linn.*

Adult Male: *Forehead* and superciliary streak *white;* scapulars and tail-coverts tipped with white; crown and *upper parts* generally *pearl-grey; wings black,* secondaries tipped with white and with white bases; primaries also barred with white near their bases, thus forming *two wing spots;* central tail-feathers black, or just tipped with white, next pair whiter, and the outermost ones entirely white; lores and space below eye and ear-coverts black; under parts white; bill, legs and feet black; irides brown. Length 9 to 9.5 inches; culmen 0·7; wing 4·5; tail 4·75; tarsus 1.

Adult Female: Similar, but less pure in general coloration; under parts duller and slightly vermiculated with dull grey.

Young: Duller than female: dark parts, dark brown,

not black, and beneath dull greyish, vermiculated both above and below ; wing spots only imperfectly developed.

Distribution : Summer visitant to Northern and Central Europe, wintering in Southern Europe.

Habitat : Woods, commons or moory places where single trees are scattered about.

Note.—The typical *L. excubitor* interbreeds in Scandinavia with a form having only one white wing-spot, known as *L. major*, while in Southern Russia it interbreeds with a very white-winged eastern form known as *L. leucopterus*, thereby producing *L. homeyeri*, which in general appearance is intermediate between the two and has a somewhat more hooked bill. It is probable that *L major* occurs in Great Britain during migration almost as frequently as the typical *L. excubitor*.

SOUTHERN GREY SHRIKE.

Lanius meridionalis *Temm.*

Adult : Superciliary streak reaching to base of bill, narrow, white ; *crown, back and rump leaden-grey ;* scapulars distinctly white ; lores, cheeks and ear-coverts black ; wings dark brown, innermost secondaries and tail black, wings showing one white spot when closed, and secondaries tipped with white ; outer tail-feathers showing more and more white, until the outermost is black only at base ; beneath whitish, sides of body washed with cinereous-brown ; throat and *breast tinged with pink ;* bill and feet black ; irides dark brown. Length 9 to 9·5 inches ; culmen 0·65 ; wing 4 to 4·2 ; tail 4·5 ; tarsus 1·15.

Young : Much paler above. The leaden-grey of adults only appears on the head ; scapulars not so pure white ; pink on breast not nearly so noticeable.

Distribution : Resident and breeding in Spain, Portugal and in South-eastern France, of casual occurrence in Italy, Sicily, &c.

Habitat : Regions covered by dense undergrowth.

LESSER GREY SHRIKE.

Lanius minor *Gmel.*

Adult Male : *Fore part of head* and a patch on either side

of head from base of bill to ear-coverts *black;* rest of upper surface grey, paler on rump; wings brownish-black showing a conspicuous white spot, and two or three of primaries tipped with white; *first primary very small*; tail much as in the other grey shrikes; beneath white, the *breast* and flanks *suffused with rose* colour; bill, legs and feet black; irides brown. Length about 8·5 inches; culmen 0·65; wing 4·75; tail 3·8; tarsus 1.

Adult Female; Similar, but showing less black on forehead and plumage generally mixed with brown; colours above less pure.

Young: Vermiculated with brown and white above; wings and tail browner and black frontal band wanting; lores and ear-coverts brown.

Distribution: A summer visitant to and breeding in Central and Southern Europe, wintering in Southern Africa. Occasionally straggles as far north as Great Britain.

Habitat: Dense bushes in plantations and gardens.

RED-BACKED SHRIKE.

Lanius collurio *Linn.*

Adult Male: *Head*, nape, and upper back, and upper tail-coverts *grey;* centre of *back* and scapulars *chestnut;* lores and ear-coverts black; wings brownish-black, margined with chestnut, the secondaries and tertiaries broadly so, with paler tips; proximal half of tail-feathers white, except central ones, which are black; outer feathers tipped with white; chin and throat nearly white; rest of under parts washed with delicate red; bill, legs and feet black; irides brown. Length 7·5 inches; culmen 0·55; *wing 3·65*; tail 3·2; tarsus 0·9.

Very Old Females: Sometimes assume a dress hardly distinguishable from that of the adult male. Such cases are however rare.

Adult Female: Above reddish-brown, greyish on neck; secondaries whitish margined; superciliary streak pale; tail washed on central feathers with red; beneath white; sides of throat, chest and flanks vermiculated with brown.

Young in first plumage: Each feather above sub-terminally barred with dark brown; head decidedly greyer than

back; no stripe above the eye; chest and flanks heavily mottled with brown.

Young after first moult: Similar to adult female but paler; head closely marked with dark brown, and much paler than the back, the feathers of which have pale tips and brown subterminal bars; secondaries broadly edged with buff; outer tail feathers only margined and tipped with whitish; beneath much as in adult female.

Distribution: A summer visitant to Central and Southern Europe, Persia, and Turkestan, wintering in Africa. Breeds commonly in England, though is rare in the northern counties. Scarce in the Iberian peninsula. Eastwards it sometimes occurs as far as Northern India.

Habitat: Thick hedges and fields near woods.

WOODCHAT SHRIKE. ×

Lanius pomeranus *Sparr.*

Adult Male: Forehead, sides of head, and *centre of back black;* a small patch or streak above the nostril white; *crown and nape chestnut; scapulars* and rump *white;* wings blackish, some feathers tipped with white; bases of primaries white; tail black; outermost rectrices chiefly white; beneath white; bill, legs and feet black; irides hazel-brown. Length usually 6·5 to 7 inches; culmen 0·5; wing 3·8 to 4; tail 3·2; tarsus 0·85.

Adult Female: Similar but duller; black feathers above mixed with brown; wing-coverts margined with red; flanks washed with reddish; rest of under parts not pure white.

Young: Reddish-brown above, transversely barred with brown and whitish; wings and tail dark brown, the former broadly margined with rufous or rufescent-buff; beneath dull white crossed by greyish-brown bars on chest and flanks.

Distribution: A summer visitant to Central and Southern Europe, more abundant in the latter. Breeds as far east as Persia, and as far north as the shores of the Baltic. Of casual occurrence in Great Britain. Winters in Southern Africa.

Habitat: Similar to that of *L. collurio.*

MASKED OR NUBIAN SHRIKE.

Lanius nubicus *Licht.*

Adult Male (Summer): *Forehead* and superciliary stripe *creamy-white; upper parts generally glossy black;* scapulars, bases of primaries, and outermost rectrices white; quills dark brown; coverts and innermost secondaries margined with white; under parts white, shaded on sides of neck, breast and flanks with pale ferruginous; bill and feet dark brown; irides brown. Length 6·9 to 7·25 inches; culmen 0·55; *wing 3·5 to 3·75;* tail 3·4 to 3·6; tarsus 0·85.

Adult Female: Similar, but much browner above; nowhere glossy black.

Young in first plumage: Feathers of upper parts broadly edged with brown, with pale centres; scapular feathers whiter; innermost secondaries broadly margined with pale brown; beneath whitish, closely vermiculated on throat, chest and flanks with dusky-brown.

Distribution: Summer migrant to and breeding in South-eastern Europe and wintering in North-eastern Africa.

Habitat: Groves, vineyards, or fir-woods.

Family AMPELIDÆ.

Genus AMPELIS.

WAXWING OR BOHEMIAN CHATTERER.

Ampelis garrulus *Linn.*

Adult: *General colour* above *greyish-brown;* rump grey; quills nearly black; primaries tipped on outer webs with yellow, and on inner ones with white; *secondaries* broadly tipped with white, *with the mid-rib extended into a scarlet wax-like point;* greater wing-coverts tipped with white; tail blackish, broadly margined with yellow; forehead washed with chestnut; lores, superciliary stripe and throat black; *under tail-coverts rich reddish brown*; rest of under parts greyish brown, paler on abdomen; bill black, pale horn at base beneath; legs and

feet black ; irides reddish-brown. Length 7·5 inches ; culmen 0·45 ; wing 4·55 to 4·75 ; tail 2·6 ; tarsus 0·75.

Young in first plumage: Browner and duller than the adult ; no trace of black on throat ; under tail-coverts dull brown.

Young Male in Winter: Similar to adult, but with less black on throat ; the white is absent on the inner tips of the primaries, the yellow margin to the tail is much narrower, and the wax-like appendages to the secondaries are imperfectly developed ; under parts generally a shade darker.

Distribution: Breeds in the pine forests at or near the Arctic Circle, occurring southwards in winter. Of irregular appearance in Great Britain.

Habitat: Fir or other woods ; gardens occasionally. Gregarious.

Note.—In some old males some of the tail-feathers show the same wax-like points as the secondaries, but not so well developed.

Family MUSCICAPIDÆ.

Genus MUSCICAPA.

SPOTTED FLYCATCHER.

Muscicapa grisola *Linn.*

Adult (Summer): General colour *above* pale *hair-brown ; feathers of crown having darker centres ;* wings and tail darker brown, with pale edges ; beneath white, streaked with brown on throat, chest and flanks ; *bill, very broad at base,* dark brown ; legs and feet black ; irides brown. Length 5·25 inches ; culmen 0·5 ; wing 3·3 ; tail 2·4 ; tarsus 0·5.

Adult in Autumn: Similar, but has the margins to the secondaries broader ; centre of throat white, and flanks more shaded with brown.

Nestling: Above dark brown, with pale buff centres to the feathers ; innermost secondaries broadly edged with buff ; beneath whitish, profusely mottled with dark brown.

Distribution: "Breeds throughout Europe as far north as

lat. 70°. and in Asia as far east as Lake Baikal, wintering in Africa as far south as the Cape.

Habitat: Cultivated districts, gardens or outskirts of woods.

PIED FLYCATCHER.

Muscicapa atricapilla *Linn.*

Adult Male (Summer): *General colour above black*, greyish on rump; wings brown: innermost secondaries broadly edged with white, and some of wing-coverts entirely white; tail brownish-black; outermost tail-feathers partly white; a slight patch of white on forehead; *sides of neck* and under parts generally pure *white;* bill, legs and feet black; irides brown. Length 4·75 to 5 inches; culmen 0·35; wing 3; tail 2·2; tarsus 0·7.

Adult Female: Duller, and brown instead of black above; no white on forehead; innermost secondaries narrowly margined with white on outer webs.

Adult Male (Winter): Similar to summer dress, but browner black above.

Nestling: General colour above dark brown, spotted with ochreous; buffish edgings to secondaries very marked; beneath closely marked with dark brown.

Distribution: Breeds in Europe south of the Arctic Circle. Winters in Central Africa. Occurs as far east as Persia.

Habitat: Cultivated districts, woods, gardens, &c.

WHITE-COLLARED FLYCATCHER.

Muscicapa collaris *Bechst.*

Adult Male: Head, back and tail black; *large frontal patch*, *entire neck* and under parts *white;* wings and tail as in *M. atricapilla*; bill, legs and feet black; irides brown. Length 4·75 inches; culmen 0·35; wing 3·25; tail 2; tarsus 0·75.

Adult Female: Resembles adult female of *M. atricapilla*, but the tarsus and tail are somewhat shorter.

Distribution: Summer visitant to Central and Southern Europe. Winters in Africa.

Habitat: Similar to that of *M. atricapilla.*

RED-BREASTED FLYCATCHER.

Muscicapa parva *Bechst.*

Adult Male (Summer): Head brownish-grey; *back brown;* wings dark brown, with paler margins; tail-coverts with a blackish tinge; central tail-feathers blackish brown; most of outer rectrices showing white at bases; *throat and chest reddish-orange*, bordered with grey; rest of under parts whitish, washed on flanks with buff; bill, legs and feet brown; irides brown. Length 4·6 inches; culmen 0·3; wing 2·75; tail 2; tarsus 0·65.

Adult Female: Similar above to male, but shows no grey; paler beneath; chest and flanks reddish-buff.

Adult Male (Winter): Shows no grey above or beneath; throat and chest buff, with dusky transverse marks; rest of under parts washed with buff.

Young in first plumage: Appear to be spotted both above and beneath.

Distribution: Found in Central and South-eastern Europe and eastward as far as India. Winters in Northern Africa. Scarce straggler to Northern Europe.

Habitat: Dense forests, occasionally found in gardens or orchards.

Section OSCINES LATIROSTRES.

Family HIRUNDINIDÆ.

Genus HIRUNDO.

SWALLOW. ✓

Hirundo rustica *Linn.*

Adult Male: Forehead and *throat chestnut; upper parts* generally *deep blue;* wings and tail black, showing green or blue at different angles; all rectrices except centre ones having a mesial spot of white; a band of dark blue across chest; rest of *under parts white;* bill, legs and feet black; irides brown.

Length 7·5 to 8 inches; culmen 0·3; wing 4·8; tail 4·25; tarsus 0·45.

Adult Female: Not so bright generally: outermost rectrices shorter, beneath shaded with buff, and chest-band not so broad.

Young in first plumage: Frontal region, throat and under tail-coverts pale cinnamon-brown; chest-band blackish; wing and tail-feathers with narrow pale inner margins; rump and upper tail-coverts with obscure pale tips; gape creamy-white.

Distribution: A common summer visitant to Europe, wintering in the Ethiopian and Indian regions.

Habitat: Cultivated districts, near houses; about rivers and lakes.

RED-RUMPED SWALLOW.

Hirundo rufula *Temm.*

Adult Male: Crown and *back* deep blue, the latter *marked with white;* superciliary stripe, *back of neck and rump chestnut;* wings and tail black, glossed with blue; under-parts white, washed, especially on flanks, with reddish-buff; throat and breast with narrow, dark longitudinal stripes; under tail-coverts broadly tipped with black; bill, legs and feet blackish; irides dark brown. Length 7 inches; culmen 0·32; wing 4·8; tail 4·1; tarsus 0·5.

Young: Duller, not so striped beneath and more rufous; some of wing-feathers tipped with reddish-buff; outermost rectrices showing a whitish patch on inner web.

Distribution: Occurs in Southern and South-eastern Europe, ranging across Asia Minor and Palestine as far east as Turkestan.

Habitat: Very similar to *H. rustica*. Vine-clad valleys.

Genus CHELIDON.

HOUSE MARTIN.

Chelidon urbica (*Linn.*)

Adult: Above bluish-black; *rump white;* wings and tail

black ; entire *under parts and feathers of feet white ;* bill black ; irides dark brown. Length 5·5 inches ; culmen 0·25 ; wing 4·45 ; tail 2·6 ; tarsus 0·5.

Young : Blacker above ; most of wing-quills more or less edged at the tips with white ; tail shorter ; throat washed with dusky.

Distribution : Breeds throughout most of Europe and Northern Africa ; winters south of Abyssinia.

Habitat : Buildings, cliffs, &c.

Genus COTILE.

SAND MARTIN.

Cotile riparia (*Linn*).

Adult : *Above* glossy *mouse-brown ;* quills and tail-feathers darker brown ; beneath white, *banded across chest with brown ;* sides of head and flanks also brown ; bill black ; legs and feet dark brown ; irides hazel-brown. Length 5 inches ; culmen 0·2 ; wing 4·25 ; tail 2·25 ; tarsus 0·5.

Young : Many of feathers of upper parts edged with pale buff ; throat also washed with pale buff.

Distribution : Summer visitant throughout the Palearctic and Nearctic regions ; winters in India, Africa, and South America.

Habitat : Sandy banks near water ; railway cuttings, &c.

CRAG MARTIN.

Cotile rupestris (*Scop*).

Adult : Above considerably lighter brown than in *C. riparia ;* quills margined on outer webs with very pale brown ; *outer rectrices showing* a large *white blotch* about the middle of the inner web ; outermost and central ones unspotted ; chin and throat whitish, former mottled with brown ; breast and abdomen pale brown with a tinge of rufous ; bill nearly black ; legs and feet brown ; irides dark brown. Length 5·5 to 5·75 inches ; culmen 0·35 ; *wing 5·2 ;* tail 2·25 ; tarsus 0·45.

Young: Darker above; feathers on back and scapulars edged with rufous; secondaries and upper tail-coverts narrowly edged with white.

Distribution: Found through Southern Europe and Central Asia to China.

Habitat: Rocky, mountain ravines or caves.

Section OSCINES CONIROSTRES.

Family FRINGILLIDÆ.

Sub-family FRINGILLINÆ.

Genus CARDUELIS.

GOLDFINCH.

Carduelis elegans *Steph.*

Adult Male: Feathers round base of bill and lores black; forehead and *upper throat crimson;* centre of crown black, joining a *black half collar* on the neck; ear-coverts and region both above and below them white; back pale olive-brown; upper tail-coverts white; quills black, tipped with white, their *bases* externally *margined with golden yellow;* tail feathers black, tipped with white and outer ones subterminally marked with a white blotch; beneath white, shaded on sides of breast, and flanks with wood-brown; bill pale brown, darker at tip; legs, feet and irides brown. Length 4·5 to 5 inches; culmen 0·45; wing 3·2; tail 2; tarsus 0·6.

Adult Female: Similar, but duller and showing less red on forehead and upper throat.

Young in first plumage: Head shows no black or red; beneath much browner, breast more or less distinctly spotted.

Young in Autumn: Above greyish-brown, shaded with darker brown; wing tips buffish and not pure white; outermost pair of rectrices only spotted.

Distribution: Resident throughout most of Europe, except in the extreme north. Resident also in Northern Africa and ranges eastward into Persia.

Habitat: Deciduous woods, gardens, orchards, or waste places where thistles are numerous.

Genus CHRYSOMITRIS.

SISKIN.

Chrysomitris spinus (*Linn*).

Adult Male (Summer): *Crown black; back dull green,* streaked with dark brown; *rump yellow;* wings blackish, barred with yellow and with pale yellowish margins; tail blackish, all except central feathers yellow at base; beneath yellow, shading into white on abdomen; flanks streaked with blackish; bill brown, paler at base; legs and feet brown; irides dark brown. Length 4·5 inches; culmen 0·4; wing 2·8; tail 1·9; tarsus 0·5.

Adult Female: Head and back greyish-brown, marked with darker brown; beneath whitish, tinged on breast with yellow and streaked with dark brown; slightly smaller than male.

Young in first plumage: Above buffish, streaked with dark brown; under parts white, tinged with buff.

Distribution: Frequents the temperate portion of the Palearctic region; winter visitant to most parts of England.

Habitat: Fir woods, plantations and fields: gregarious.

CITRIL FINCH.

Chrysomitris citrinella (*Linn*).

Adult Male (Summer): Forehead yellowish; *head* and back *green*, latter marked with brown; rump, region round eye and *central under parts* greenish yellow, *unspotted;* wings and tail blackish-brown, with yellowish margins, the former banded with yellowish-green; nape, sides of neck and *flanks grey;* bill bluish-horn; legs and feet brown; irides dark brown. Length 4·75 inches; culmen 0·3; wing 3; tail 2·2; tarsus 0·6.

Adult Female: Similar but shows less yellow on forehead and the back is brownish-grey, with a tinge of green; beneath yellower, breast grey mixed with green.

Adult (Winter): General plumage decidedly yellower, with

the exception of the back, which is reddish-brown only tinged with yellow and streaked with dusky.

Young in first plumage: Above buffish-brown, streaked with darker brown; rump buff; wings margined and barred with buff; beneath buffish-white and indistinctly streaked.

Distribution: Resident in the mountain districts of Southern-central and Southern Europe, except in the extreme eastern portions.

Habitat: Fir woods and isolated trees on mountain sides.

Genus SERINUS.

SERIN FINCH.

Serinus hortulanus *Koch.*

Adult Male (Summer): *Forehead and cheeks yellow*, latter tinged with green; crown and back olive-green, conspicuously streaked with dark brown; wings and tail dusky, with pale yellowish margins; *rump* and under parts *clear yellow*, shading into white towards vent; *flanks streaked with dark brown;* bill brownish, paler beneath; legs and feet brown; irides dark brown. Length 4·5 inches; culmen 0·3; wing 2·75; tail 1·75; tarsus 0·5.

Adult Female: Duller, yellow on forehead absent; breast dull white, streaked throughout with brown.

Adult (Winter): The yellow above and beneath somewhat obscured by pale margins to the feathers; wings margined with buffish.

Young in first plumage: Resemble the female, but show no trace of yellow.

Distribution: Resident in most parts of Central and Southern Europe: common in Asia Minor; found also in Palestine.

Habitat: Vineyards, gardens, and cultivated regions near dwellings.

RED-FRONTED FINCH.

Serinus pusillus (*Pall.*)

Adult Male: *Frontal region and rump orange-red*, rest of

head and *throat black;* nape washed with brown; back, scapulars and upper tail-coverts black, with broad yellowish margins; primaries dusky, margined with yellow and secondaries with white; lesser wing-coverts tipped with orange: tail-feathers dusky margined with yellow on outer, and with white on two central rectrices; breast deep yellow marked with black, becoming paler yellow below and almost white at vent; flanks streaked with black; bill, legs and feet black; irides dark brown. Length 4·5 inches; culmen 0·3; wing 2·8; tail 2·1; tarsus 0·85.

Adult Female: Shows less red on forehead, and is generally duller; otherwise similar.

Young: Head brown, with darker central streaks, with a tinge of orange in front; throat feathers margined with yellowish.

Distribution: Resident in the extreme south-east of Europe, and eastward occurs in Persia and Turkestan.

Habitat: Wooded mountain sides at considerable elevation.

Genus LIGURINUS.

GREENFINCH. ✓

Ligurinus chloris (*Linn.*)

Adult Male (Summer): Forehead and rump greenish-yellow; sides of head and ear-coverts dull grey; lores blackish; *crown*, neck *and back olive-green*, with obscure greyish margins to the feathers; wings dark brown, tipped with dull grey, primaries edged with yellow at their bases; tail dark brown, central feathers edged with grey, the *rest having their bases entirely yellow;* beneath greenish-yellow on throat shading into clear yellow on abdomen; chest and sides of neck edged with grey; flanks grey; bill pale flesh-colour, darker at tip; legs and feet pale brown; irides hazel. Length 5·5 inches; culmen 0·5; *wing 3·4 to 3·5;* tail 2·3; tarsus 0·65.

Adult Female: Above brown; rump green; wings as in male, but not so brightly coloured; beneath greyish-brown, shading into dirty white at the vent; abdomen tinged with yellow.

Young in first plumage: Nearly resembles the adult female.

Young Male (Autumn): Greener than female, but considerably duller than adult male; yellow on primaries not extending so far.

Distribution: Resident throughout most of the Western Palearctic Region, except in the extreme north, ranging eastward to Northern Persia. Winter visitant to Northern Africa and Palestine.

Habitat: Gardens and cultivated regions generally.

Genus COCCOTHRAUSTES.

HAWFINCH.

Coccothraustes vulgaris *Pall.*

Adult Male (Summer): Forehead yellowish; crown and rump chestnut; neck above and at sides ashy-grey; *back dark, chestnut-brown;* wings black glossed with purple; primaries having a blotch of white on inner margins, *innermost primaries* enlarged and *hooked at tips, glossed with purple;* wing-coverts chiefly white; tail-feathers blackish, terminal part of inner webs white; narrow ring round base of bill, and chin black; rest of under parts greyish-brown; bill leaden-blue, legs and feet very pale brown; irides greyish-white. Length about 7 inches; culmen 0·7; wing 3·8; tail 2·25; tarsus 0·8.

Adult Female (Summer): Similar, but duller throughout, and showing less black upon the throat.

Adult (Winter): Above dull olive-brown, collar brownish-grey; black on throat not pure; secondaries and most of primaries externally edged with grey; beneath brown, shading to grey on centre of abdomen; bill pale brown or brownish-flesh-colour.

Male in first plumage: Back shaded yellowish-brown, head yellower or greener, and rump much paler; wings very similar to adult, but coverts not pure white; chin and throat whitish, shading into pale buff on rest of under parts; breast and sides of body barred with brown, darker on latter; bill pale flesh-colour.

Female in first plumage: Similar, but has some of secondaries edged with grey, and is generally duller in colour.

Distribution: "Occurs, with more or less frequency, throughout the Palearctic Region, except in some of the more northern parts."

Habitat: Deciduous woods, orchards, and cultivated country.

Genus PASSER.

HOUSE SPARROW.

Passer domesticus (*Linn.*)

Adult Male: *Crown* and rump *ashy-grey*, former bordered with chestnut; back dark brown, the feathers having reddish-brown margins; wings and tail dark brown, with paler margins; lesser wing-coverts tipped with white; lores black; cheeks greyish; *centre of* throat and *chest black;* rest of under parts greyish-white; bill black, legs and feet brown; irides dark brown. Length 6 inches; culmen 0·45; wing 3; tail 2·4; tarsus 0.65.

Adult Female: Above dull brown, streaked on the back with darker brown; lesser wing-coverts tipped with buffish; superciliary stripe more distinct than in male; under parts dirty brown, paler on centre of abdomen.

Young in first plumage: Similar to adult female, but paler.

Distribution: Common resident throughout the Palearctic Region.

Habitat: Cultivated regions near human habitations.

Note.—In some male birds the throat is washed with deep chocolate.

ITALIAN SPARROW.

Passer italiæ (*Vieill.*)

Adult Male (Summer): *Crown* and nape *rich chestnut;* superciliary stripe white and distinct; cheeks pure white, not greyish, otherwise similar to *P. domesticus* in summer. Length 5·5 to 6 inches; culmen 0·45; wing 3; tail 2·25; tarsus 0·7.

Adult Female: Similar to female of *P. domesticus.*

Young in first plumage: Resemble the female.

Distribution: Inhabits Italy and Corsica, and has been observed as far north as the Brenner Pass.

Habitat: Similar to that of *P. domesticus*.

SPANISH SPARROW.

Passer hispaniolensis *Temm.*

Adult Male (Summer): Very similar to *P. italiæ*, but larger, the back much darker and marked with white; the *black on the chest extending to the sides of the chest, and flanks boldly marked with black*. Length 6 to 6·25 inches; culmen 0·5; wing 3·1; tail 2·25; tarsus 0·75.

Adult Female: Indistinguishable from female of *P. domesticus* except by its somewhat larger size.

Distribution: Resident in Southern Europe. Found also in Northern Africa and eastward into Northern India.

Habitat: Similar to that of *P. domesticus*.

TREE SPARROW.

Passer montanus (*Linn.*)

Adult Male (Summer): Crown and nape dull chocolate, rest of upper parts similar to *P. domesticus*, but paler in ground-colour and less striped; *wings crossed by two white bars; sides of head white with a patch of black below the ears;* chin and centre of throat black; rest of under parts greyish, except centre of abdomen, which is white; bill black; legs and feet light brown; irides brown. Length about 5 inches: culmen 0·35; wing 2·75; tarsus 0·65.

Adult Female: Similar, but black on chin not so extended, and less pure.

Young in first plumage: Similar, but chin and cheek spots are brown.

Distribution: Occurs throughout most of the Palearctic Region, and in the Indian Region as far south as Java. Has not been recorded from Portugal.

Habitat: Similar to that of *P. domesticus;* nests in holes in trees, &c.

Genus PETRONIA.

ROCK SPARROW.

Petronia stulta (*Gmel.*)

Adult Male: Sides of crown and nape dark brown, centre paler, shading into whitish on nape; eyebrows and between the eye and nape whitish; *back* dull *brown*, conspicuously *marked with darker brown and whitish*, rump unmarked, wings dark brown with pale margins and innermost secondaries with whitish tips; tail dark brown, outer feathers showing spot of white near extremities; beneath buffy-white, striped with pale brown; large blotch on *centre of chest bright yellow;* bill horn-colour, paler beneath; legs and feet brown; irides brown. Length about 6 inches; culmen 0·55; wing 3·6 to 3·8; tail 2·15; tarsus 0·7.

Adult Female: Similar, but considerably paler above, and not showing so much yellow on chest.

Young: Similar to female, but paler beneath.

Distribution: Resident in Central and Southern Europe, Northern Africa, and Central Asia.

Habitat: High, uncultivated regions, or low fields and roads in winter.

Genus MONTIFRINGILLA.

ALPINE SNOW-FINCH.

Montifringilla nivalis (*Linn.*)

Adult Male (Summer): Feathers of *head grey*, with darker centres on crown; *back* feathers *brown*, with dark centres; rump dark brown; primaries blackish, with narrow whitish tips, secondaries and wing-coverts chiefly white; outer rectrices white, tipped with black, except outermost pair which lack the black tips, central feathers brown, with white margins; chin and *throat black;* rest of under parts white; bill, legs and feet black; irides brown. Length 7·2 inches; culmen 0·5; wing 4·75; tail 3; tarsus 0·75.

Adult Female (Summer): Similar, but not so purely coloured either on head or under parts, and with less black on throat.

Adult Male (Winter): Similar to the adult female described, but black on throat almost obscured by white margins; bill chiefly yellow.

Young in first plumage: Very similar to adult female, but browner on crown; tarsi brown.

Distribution: Resident in the higher mountain districts of Southern Europe, the Caucasus, and Lebanon.

Habitat: Stony mountain tops and passes, descending to the plains in winter.

Genus FRINGILLA.

CHAFFINCH.

Fringilla cœlebs *Linn.*

Adult Male: *Crown* and nape dark *slaty-grey; back chestnut;* rump sap-green; scapulars grey, with brownish tips; quills dusky, narrowly margined with white; greater coverts blackish, broadly tipped with white, lesser coverts pure white; central tail-feathers grey, rest dark brown, the two outermost on either side white on inner margins; forehead black: sides of neck grey; cheeks, *throat and breast reddish-brown*, shading into whitish on abdomen; bill lead colour, darker at tip; legs and feet brown; irides brown. Length 5·75 inches; culmen 0·45; wing 3.25; tail 2·6; tarsus 0·65.

Adult Female: Crown and back olive-brown, shaded (especially on sides of crown) with darker brown; wings duller, with yellowish margins, greater coverts narrowly tipped with white; cheeks, throat and breast dull greyish-brown.

Young in first plumage: Very similar to adult female, but duller.

Young Male (Winter): Similar to adult, but black on forehead imperfectly developed, and grey of crown showing only under the brown feathers here and there.

Distribution: Resident and common throughout most of Europe. Occurs rarely in North-western Africa.

Habitat: Cultivated districts, gardens and woods.

BRAMBLING.

Fringilla montifringilla *Linn.*

Adult Male (Summer): *Head*, neck, *and back* glossy *black;* rump white, with a few black feathers showing; wings black, with narrow whitish margins and crossed by a whitish bar; inner primaries white at base externally; median coverts white; *least coverts orange-buff;* scapulars buff; rectrices black, the outermost partially white; chin and throat buff (occasionally black) rest of under parts buff with a reddish tinge, shading into whitish on abdomen and under tail-coverts; flanks spotted with black; bill black; legs, feet and irides dark brown. Length 5·5 to 6 inches; culmen 0·45; wing 3·6 to 3·75; tail 2·4; tarsus 0·7.

Adult Female (Summer): Very similar to male in winter, but the black parts are browner and the general coloration is duller, with less white showing upon wings.

Adult Male (Winter): Black feathers of upper parts partially obscured by brown margins; bill yellow, tipped with horn-colour; innermost secondaries broadly margined with orange-buff, and greater coverts broadly tipped with the same.

Young in first plumage: Resemble the adult female.

Distribution: Found throughout most of the Palearctic Region, breeding in the far north.

Habitat: Birch forests in summer, cultivated districts and commons in winter.

Genus LINOTA.

MEALY REDPOLL.

Linota linaria (*Linn*).

Adult Male (Summer): *Crown glossy red;* nape, back, and scapulars dark brown, margined in some places with whitish; *rump* much whiter, *washed with pink and streaked with brown;* quills dusky, innermost secondaries, greater and middle wing-coverts tipped with whitish; tail-feathers dusky, narrowly margined with whitish; *chin black, breast rosy-pink,* streaked with black and white; rest of under parts whitish,

flanks streaked with brown; bill brownish horn-colour, legs and feet brown; irides brown. Length 5 inches; culmen 0·3; wing 3; tail 2·3; tarsus 0·5.

Adult Female (Summer): Very similar to male but darker above, more mottled beneath, and without any red on the rump or breast.

Adult (Winter): Narrow frontal band yellowish-grey; feathers of upper parts generally with lighter margins, concealing the red; throat and chest washed with dull buff; bill yellow, tipped with brown.

Young in first plumage: Head, nape, lower back, and rump dark brown, edged with greyish-buff; feathers of mantle edged with pale reddish-brown; wings as in adult, but edged with reddish-brown; beneath buffish-white, streaked with blackish-brown; bill and legs brown.

Distribution: An inhabitant of the more northern parts of both hemispheres, breeding chiefly in the birch-region, and straying southward in winter.

Habitat: Wooded localities or in the neighbourhood of plantations.

Note.—The Mealy Redpoll, according to its geographical position, is subject to great variation, both in size and colour, in its range through Arctic Europe, Asia, and America. Examples found in Greenland are very large and white, with wings measuring about 3·25 inches; the streaks on rump, flanks, and under tail-coverts being nearly obsolete. This race of Redpolls is known as *L. hornemanni*, and between it and the typical *L. linaria* numberless grades appear, and have received from time to time specific titles, the most distinct of which is perhaps the *L. exilipes* of Coues, which has the unspotted rump of *L. hornemanni* with the size of *L. linaria*. Both the above-mentioned forms occur in Arctic Europe.

LESSER REDPOLL.

Linota rufescens (*Vieill*).

Adult Male (Summer): Very similar to *L. linaria*, but shorter and much darker generally; *edgings of upper feathers more rufous*; bill brownish-horn, yellowish at base beneath; legs dark brown; irides brown. Length 4·75 inches; culmen 0·35; *wing 2·75*; tail 2·2; tarsus 0·45.

Adult Female (Summer): Decidedly shorter than male

and usually shows no red on rump or breast; patch on chin browner than in male; flanks and chest washed with light brown, and streaked with darker brown.

Adult (Winter): Feathers above more broadly edged with rufous-brown; throat patch smaller than in summer; bill yellow, black tipped.

Young in first plumage: Head mottled with dark brown and greyish; greater and middle wing-coverts broad, tipped with buff; rump mottled with brownish-white and dark brown; chin, breast and abdomen whitish; sides of head, chest and flanks washed with brown and mottled with darker brown; upper mandible shaded brown; legs paler than in adults.

Distribution: Northern Central Europe, breeding commonly in parts of Great Britain; not found north of the Baltic and occurring in Southern Europe on migration.

Habitat: Similar to that of *L. linaria*.

LINNET. ✓

Linota cannabina (*Linn*).

Adult Male (Summer): *Crown ashen-grey*, streaked with dark brown, forepart washed with cherry-red; ear-coverts ashy-grey; *feathers at base of bill and round eyes ochreous;* back feathers chestnut, with darker centres; primaries and tail blackish, with white margins broader on the latter; throat marked with dusky; *sides of breast* and chest *rosy;* flanks fawn-brown; bill, legs and feet brown; irides brown. Length 5·5 inches; culmen 0·35; wing 3·25; tail 2·3; tarsus 0·65.

Adult Female (Summer): Very similar to male, but browner above and lacks the red both on crown and breast, the latter and flanks striped with dark brown.

Adult Male (Winter): Similar but duller, and usually the red is obscured by pale margins to feathers which wear off again in spring.

Young: Very like adult females, but rather more striped with brown both above and beneath, and young males show a trace of red on the breast.

Distribution: Except in extreme north, resident over nearly the whole of Western Palearctic Region.

Habitat: Neighbourhood of plantations or commons. In winter on stubble-fields in flocks.

TWITE.

Linota flavirostris (*Linn*).

Adult Male (Summer): Upper parts dark brown, marked with tawny-brown; *rump rose-coloured;* quills dusky, some primaries with narrow, white margins, secondaries margined with tawny; rectrices dusky, outer ones margined with white; chin and *throat tawny-buff unspotted;* abdomen white; sides of head and body marked with brown; *bill yellowish*, darker at tip; legs and feet dark brown; irides brown. Length 5·5 inches; culmen 0·3; wing 3; tail 2·4; tarsus 0·65.

Adult Female (Summer): Similar but showing more of the tawny margins to the upper feathers, especially on the head; no red on rump; under parts tinged throughout with buff.

Adult (Winter): Very like the summer dress, but slightly more mottled above; throat and breast rich tawny-brown; streaked only on sides of neck and breast; rump of male slightly rosy.

Immature birds: Resemble adults, but show less white on margins of primaries; legs and feet paler.

Distribution: Breeds regularly in Scotland, Ireland and the North of England, also in Norway. Occurs in most other parts of Europe chiefly on migration.

Habitat: Moors, bushy hill-sides, &c.

Sub-family LOXIINÆ.

Genus CARPODACUS.

SCARLET GROSBEAK.

Carpodacus erythrinus (*Pall*).

Adult Male: *Crown, rump*, chin, throat *and breast crimson-rose*, darkest on crown; lores and ear-coverts reddish-brown; back brown, tinged with rose; wings and tail with pale brown

margins, sometimes with rose-colour ; under tail-coverts nearly white ; bill yellowish-brown ; legs, feet and irides brown. Length 5·5 inches ; culmen 0·4 ; *wing 3·2 to 3·3 ;* tail 2·4 ; tarsus 0·7.

Adult Female : Prevailing colour above dull olive-brown, wings and tail dark brown ; margins of innermost secondaries and tips of coverts whitish, or very pale brown ; beneath brownish-white, mottled about chest with brown.

Immature birds : Similar to adult female, but pale edges to back feathers yellower ; margins of secondaries paler and broader, more generally streaked with brown beneath.

Distribution: Breeds in Northern Russia, across Northern Siberia, also in the Caucasus and Asia Minor, wintering in India. Occurs casually in many European countries on migration.

Habitat : Groves in marshy localities, or gardens. Plains in winter.

CAUCASIAN ROSE-FINCH.

Carpodacus rubicillus (*Güld*).

Adult Male : Crown and sides of head scarlet, on latter glossed with silvery-grey ; back, scapulars and wing-coverts brown, washed with deep rose ; wings and tail dark brown, the former rosy-tinged and both with pale margins ; rump deep rose ; throat and *breast scarlet, conspicuously spotted with silvery-white ;* bill light horn, yellowish at base beneath ; legs and feet blackish-brown ; irides dark brown. Length 7·75 inches ; culmen 0·55 ; *wing 4·5 ;* tail 3·75.

Adult Female : Prevailing colour above dirty brown, head with a yellowish tinge, wing and tail feathers edged with light ashy-brown ; beneath ashy-buff with yellowish tinge, becoming buffish-white on under tail-coverts ; feathers of head and breast showing dark centres.

Immature birds : General colour pale earthy-brown, yellowish in places, paler on abdomen ; rectrices externally margined with yellowish or white.

Distribution : Resident in the Caucasus, ranging eastward into Northern India.

Habitat : Mountain sides, in the vicinity of streams.

Genus PYRRHULA.

BULLFINCH.

Pyrrhula europæa *Vieill.*

Adult Male: *Crown*, nape, region round base of bill, wings (except primaries which are dusky) and tail *black*, glossed with steel-blue; *back* dark cinereous-*grey*; rump and tail-coverts white; wings crossed by broad band of ashy-grey; outer web of innermost secondary bright brick-red at tip; vent white; rest of *under parts brick-red*; bill black; legs and irides dark brown. Length 6 inches; culmen 0·3; *wing 3·2*; tail 2·4; tarsus 0·65.

Adult Female: Grey of back replaced by ashy-brown; innermost secondary only tinged with red; beneath warm brown.

Young in first plumage: Similar to adult female but show no black on the head; chin lighter than rest of under parts, which are tinged with ochreous; lower mandible yellowish at base.

Distribution: Inhabits Europe west of Central Russia and south of Scandinavia. Occurs casually in southernmost countries of Europe.

Habitat: Woodlands, gardens and orchards.

NORTHERN BULLFINCH.

Pyrrhula major *C. L. Brehm.*

Adult Male: Similar to adult male of *P. europæa*, but is larger and the colours, in some specimens, are more intense. Length 6·25 inches; culmen 0.35; *wing 3·6 to 3·8*; tail 3; tarsus 0·7.

Adult Female: Similar to adult female of *P. europæa*, but larger and distinctly greyer.

Distribution: Breeds in Scandinavia and North-eastern Europe generally, occurring as a winter visitant in South-eastern Europe. Found also in Central Asia.

Habitat: Similar to *P. europæa*.

Genus PINICOLA.

PINE GROSBEAK.

Pinicola enucleator (*Linn*).

Adult Male: Lores black; rest of *head vermilion*; feathers of back and scapulars greyish-black, margined broadly with red; *rump and upper tail-coverts* showing almost entirely *red*; wings greyish-black narrowly margined with whitish; primaries show a tinge of red on margins of outer web; wing-coverts broadly edged and tipped with white; tail greyish-black, with narrow pale margins, and showing a shade of red at base; feathers of *under parts vermilion*, grey at bases; shading into grey on abdomen; bill dark brown, paler at base beneath; legs, feet and irides dark brown. *Length 8·5 inches*; culmen 0·55; wing 4·3; tail 3·6; tarsus 0·8.

Adult Female: Head, ear-coverts, rump and upper tail-coverts rich yellow with greenish tinge; back and scapulars slate-grey washed with green; wing feathers greyish-black, edged and tipped with white; tail feathers greyish-black, most green margined; beneath ashy-grey, tinged on fore-parts with greenish-yellow; bill orange-brown; legs and feet dark brown.

Young: Very similar to adult female but less yellow on back and generally duller in colour. In young males the breast is somewhat yellower, with occasionally a few red feathers on the crown.

Distribution: Resident in the arctic portions of both Palearctic and Nearctic Regions. Of casual occurrence in Great Britain.

Habitat: Conifer woods and also occasionally deciduous groves.

Genus LOXIA.

CROSSBILL.

Loxia curvirostra *Linn.*

Adult Male: *Prevailing colour dull crimson*, clearer on chest and paler on rump, shading into white towards the vent; wings and tail brown, narrowly margined with dull reddish-brown; under tail-coverts white, centrally marked with dark

brown; *bill (with mandibles crossing one another at the tips)* dull horn-brown; legs, feet and irides dark brown. Length 6 inches; culmen 0·75; *height of bill at base 0·45;* wing 4; tail 2·6; tarsus 0·65.

Adult Male (in captivity): Prevailing colour greenish-yellow, becoming purer yellow on the rump.

Adult Female: Differs from the male by being chiefly greyish-brown, washed on head, back and breast with light greenish-yellow, brightest and clearest on the rump.

Young in first plumage: Greyish-white both above and beneath, conspicuously striped all over with dark brown and washed on back and rump with pale green.

Distribution: Breeds in the pine forest regions throughout most of Europe, also in Northern Asia.

Habitat: Conifer forests, fir plantations.

Note.—In Scandinavia and Northern Russia (occasionally straggling as far west as Great Britain) a larger billed race of Crossbills is found. In their coloration and changes of plumage the two forms are almost identical, but in one the height of the bill at base is 0·45 whilst in the other it measures in some birds fully 0·6. This larger billed bird (the Parrot Crossbill) has by many authors received specific rank under the name of *L. pityopsittacus.*

TWO-BARRED CROSSBILL.

Loxia bifasciata *(C. L. Brehm).*

Adult Male: In general tint very much resembling *L. curvirostra*, but more mottled above owing to the dark bases of the feathers showing through; the innermost secondaries, *greater and median wing-coverts conspicuously tipped with white;* bill, legs, feet and irides brown. Length 6·25 inches; culmen 0·7; height of bill at base 0·43; wing 3·8; tail 2·75; tarsus 0·62.

Adult Female and Young: May be distinguished by their white-tipped wing-coverts.

Distribution: Resident in North-eastern Europe and Northern Asia, occurring casually in Central and Western Europe.

Habitat: Resembles that of *L. curvirostra.*

Note.—The American White-winged Crossbill, which has occasionally appeared in England, has a more slender bill and darker scapulars.

Sub-Family EMBERIZINÆ.

Genus EMBERIZA.

BLACK-HEADED BUNTING.

Emberiza melanocephala *Scop.*

Adult Male (**Summer**) : *Crown* and cheeks *black;* upper parts generally chestnut, tinged, especially on rump, with orange ; wings and tail brown ; primaries margined with whitish ; greater wing-coverts margined with white ; rectrices with pale brown margins ; sides of neck and *under parts* rich *yellow*, washed with chestnut on sides of body ; bill dark grey ; legs flesh-colour ; irides dark brown. *Length 6·8 inches ;* culmen 0·5 ; wing 3·75 ; tail 3·15 ; tarsus 0·8.

Adult Female (**Summer**) : Above brown, streaked with darker brown ; crown and rump washed with yellowish ; wings brown, broadly edged with whitish ; rectrices ashy-brown with greenish tinge at base and pale edged ; sides of face pale brown ; lores and chin whitish ; beneath yellow, with ash-coloured flanks ; under wing-coverts yellowish-white ; length of wing 3·5 inches.

Adult Male (**Winter**) : Above dull brown, washed with yellowish on rump, and showing black shaft lines on crown ; sides of head blackish ; beneath yellow, obscured on breast by ashy margins ; bill dark brown, paler and yellower beneath.

Young in first plumage : Above pale yellowish-brown, yellower on rump, many of back and crown feathers having darker shaft-lines ; wings margined with very pale buff, coverts and innermost secondaries very broadly so ; throat greyish-white ; chest buff, washed with brown ; breast and abdomen feathers yellowish, with white edges ; under tail-coverts yellow.

Distribution : Abundant in South-eastern Europe during the summer ; found occasionally also in countries further west. Winters in India.

Habitat : Wooded plains, gardens or orchards.

COMMON BUNTING.

Emberiza miliaria *Linn.*

Adult (Summer): *Above* hair-*brown*, with shaft-stripes of darker brown, which are less apparent on rump; wings and tail dark brown, with pale margins; wing-coverts and innermost secondaries broadly edged with pale brown; region round eye and *cheeks buffish, marked with dark brown*; under parts greyish-white; sides of *throat and* chest with dark brown arrow-shaped marks; *flanks streaked with brown*; bill dark brown on ridge of culmen, lower mandible pale yellow; legs and irides brown. *Length 7 inches*; culmen 0·49; wing 3·75; tail 2·8; tarsus 0·9.

Adult (Winter): Darker and richer above and more suffused with buff beneath.

Immature birds: Are similar to adults in winter, but are still more suffused with rich buff and more heavily spotted beneath.

Distribution: Resident throughout Europe, except in the extreme north. Ranges eastward through Central Asia.

Habitat: Open cultivated localities.

YELLOW BUNTING OR YELLOW HAMMER.

Emberiza citrinella *Linn.*

Adult Male (Summer): *Head* and nape *yellow*, streaked here and there with brown; back fulvous-brown; scapulars, and *rump chestnut*, the two former longitudinally marked with dark brown; wings dark brown, primaries narrowly margined on outer webs with yellow, secondaries and wing-coverts with chestnut; tail dark brown, central rectrices margined with chestnut and two outermost pairs having large patch of white on inner webs; *beneath yellow*, shaded with dull olive on chest, and *flanked with chestnut*; bill horn-colour, browner above; legs and feet light brown; irides dark brown. Length 6·5 inches; culmen 0·4; wing 3·4; tail 3; tarsus 0·7;

Adult Female (Summer): Duller than the male, the yellow paler, and little or none upon the head, otherwise very similar.

Adult Male (Winter): Has the feathers on the crown tipped with brown and those on the rump with greyish; under parts more marked with dusky mottlings.

Young in first plumage: Have no yellow above. General colour of upper parts dull olive, marked with blackish; rump almost unmarked; tips of wing-coverts very pale; beneath greyish-white, streaked with brown.

Distribution: Resident throughout Europe and in Asia as far east as Turkestan.

Habitat: Commons, hedge-rows or stackyards.

CIRL BUNTING.

Emberiza cirlus *Linn.*

Adult Male (Summer): *Crown* and nape *olive*, streaked with dark brown; back and scapulars dull bay, some of feathers having dark shaft-lines; wings dark brown; primaries narrowly edged with yellowish, greater wing-coverts and tertiaries broadly margined with chestnut; rectrices dark brown, middle pair tinged with rufous; outermost rectrices narrowly edged on outer webs with white; *superciliary stripe*, and one beneath the eye *yellow;* line from base of bill through the eye to ear-coverts blackish; sides of neck and chest-band olive; chin and *throat black*, with broad *patch of yellow on lower throat;* below this an irregular band of chestnut; abdomen dull yellow; flanks dull olive, streaked with brown; bill lead colour; legs and feet light brown; irides brown. Length 6 inches; culmen 0·35; wing 3·15; tail 2·8; tarsus 0·7.

Adult Female (Summer): Crown dull olive, streaked with black; back reddish-brown, also streaked with black; sides of face dull brown; superciliary stripe pale yellow; throat brownish with darker specks; rest of under parts dull yellow, streaked with brown.

Adult Male (Winter): Generally paler and duller than in summer; black feathers on head and some of wing feathers show pale margins.

Immature birds: Similar to adult female, but show nowhere any decided yellow, only a suffusion of buff.

Distribution: Resident in Central and Southern Europe,

Asia Minor, and North-western Africa ; breeds also in south of England.

Habitat: Cultivated and woodland districts.

ORTOLAN BUNTING.

Emberiza hortulana *Linn.*

Adult Male (Summer): *Crown and nape grey with greenish tinge ;* back and scapulars pale chestnut, with broad, dark shaft-stripes ; rump yellowish-brown, unstreaked ; primaries dark brown, narrowly margined with pale brown ; tail-feathers dark brown, two outermost pairs white on terminal third of inner web, most of rectrices bordered with pale brown externally ; sides of neck and chest-band yellowish-green ; chin, throat, *a ring round eye and lores pale yellow* ; *breast and abdomen pale rufous*, tinged with yellowish ; bill, legs and feet flesh-colour ; irides brown. Length 6·5 inches ; culmen 0·4 ; wing 3·6 ; tail 3 ; tarsus 0·75.

Adult Female (Summer): Very similar, but head greyer and more marked with brown ; pale ochreous patch behind nostril ; chin and throat paler and bordered by a line of brown spots on either side ; chest mottled with dusky brown, and generally paler beneath.

Immature birds: Similar to above description, but showing more yellow on sides of head and more distinctly marked with brown on chest.

Distribution: A summer visitant to temperate Europe and Central Asia, wintering in Northern Africa and Central India. Of rare occurrence in Great Britain.

Habitat: Edges of woods, near water ; damp thickets, &c.

MEADOW-BUNTING.

Emberiza cia *Linn.*

Adult Male (Summer): *Crown*, nape and neck bluish-*grey* ; *sides of crown*, a line through the eye, and another passing from base of bill (bordering throat) to *ear-coverts black* ; superciliary stripe white ; back pale brown, washed with cinnamon and marked on centre with dark brown ; *rump* dark *cin-*

namon, unspotted; wings brown; primaries narrowly margined with whitish and secondaries with pale brown; greater and median coverts tipped with whitish; lesser coverts grey; tail feathers dark brown, the central pair somewhat paler, with whitish margins, terminal half of outermost pair nearly all white; chin whitish, becoming bluish-grey on throat and chest; rest of under parts cinnamon; bill lead colour, paler beneath; legs yellowish-brown; irides brown. Length 6 inches; culmen 0·45; wing 3·2; tail 3; tarsus 0·7.

Adult Female (Summer): Grey of the crown duller, washed with brown, and streaked like the back with darker brown; stripes on side of crown obscured; wing bars not so white; under parts dull, rusty fulvous; throat brownish-grey.

Adult Male (Winter): Feathers of upper parts more subdued by having broad fulvous margins; crown washed with brown, and black bands not so distinct; general tint of under parts somewhat paler.

Adult Female (Winter): Similar to male at same season, but shows no grey on the crown and superciliary stripe indistinct.

Young: Are very similar to female in winter, but are marked with triangular brown spots on throat and chest.

Distribution: Resident in Southern Europe, being found in the countries bordering the Mediterranean on both sides.

Habitat: Hill-sides covered with brushwood; vineyards.

CRETZSCHMAR'S BUNTING.

Emberiza cæsia *Cretzsch.*

Adult Male (Summer): *Head, neck and chest-band clear grey;* lores and throat pale rufous; back feathers reddish-brown, with dark brown centres; rump and upper tail-coverts pale rufous: wings brown, margined with rufous; tail feathers brown, two central ones margined with rufous; two outermost feathers white towards tip of inner web; entire *breast* and abdomen rich *chestnut; bill reddish-brown*, paler beneath; legs and feet brown; irides brown. Length 6·25 inches; culmen 0·4; wing 3·3; *tail 2·4*; tarsus 0·6.

Adult Female: Colours more subdued than those of male; feathers of the crown showing blackish streaks; cheeks

and ear-coverts dark rufous; rest of head and throat pale rufous, latter marked with small dark specks on either side; rest of under parts much as in male, but chest-band dull grey, marked with brown.

Young Male in first plumage: Above greyish-brown, having dark shaft-lines to most of feathers; innermost secondaries and wing-coverts very broadly bordered with fulvous; beneath very pale cinnamon-brown, becoming pale cinnamon on under tail-coverts; chest dull greyish; sides of throat and chest spotted with dusky brown.

Distribution: Summer visitant to South-eastern Europe, occasionally straying as far west as France. Winters in Africa.

Habitat: Borders of cultivated districts; barren places.

PINE BUNTING.

Emberiza leucocephala *Gmel.*

Adult Male (Summer): Crown white, some of feathers having dark shaft-lines; forehead, line through the eye, entire *throat* and sides of throat dark *chestnut*-brown; *ear-coverts white;* sides of neck grey; back rufous, marked with dark brown; *rump* and upper tail-coverts *rich bay;* primaries greyish-brown, narrowly margined with whitish; rest of wing feathers dark brown and more or less broadly bordered with rufous; lesser coverts ashy-grey; tail-feathers dark greyish-brown, edged with fulvous, except two outermost rectrices which are chiefly white; *across the chest a band of white;* breast and flanks rich bay, tinged with white; centre of abdomen white; bill horn-brown, paler and yellower beneath; legs and feet pale yellowish-brown; irides brown. Length 6·6 inches; culmen 0·4; wing 3·65; tail 3·2; tarsus 0·7.

Adult Female (Summer): Crown greyish-brown, with blackish stripes; lores and cheeks dirty white, purer on sides of neck; nape grey, somewhat marked with brown; back and scapulars brown, with darker shaft-stripes and mixed with rufous; rump and upper tail-coverts rich bay, unspotted; lesser wing-coverts brown, not ashy-grey; throat dull white, speckled, especially on the sides, with brown; chest and flanks rufous, streaked with reddish-brown.

Adult Male (Winter): Much duller than in summer, showing no rufous on wings; white on crown much obscured by brown; rump, upper tail-coverts and throat feathers with whitish margins; breast white, broadly marked with brown.

Young in first plumage: Much resembles adult female, but is entirely brown above, somewhat paler on crown and washed with rufous on rump and upper tail-coverts; sides of throat speckled with blackish; throat and chest buffish, the latter marked with dark brown.

Distribution: Summer visitant to Asiatic Russia, wintering in Southern Asia; casual winter visitant to Eastern Europe.

Habitat: Wooded localities (evergreen or deciduous).

YELLOW-BREASTED BUNTING.

Emberiza aureola *Pall.*

Adult Male: *Prevailing colour above deep chestnut;* forehead, chin, and sides of head black; wings brown, with fulvous margins; *median coverts white;* tail brown, margined with fulvous, except two outermost feathers, which are chiefly white; *beneath bright yellow* with dark *chestnut band across chest;* flanks striped with dusky; under wing-coverts chiefly white; bill brown above, paler beneath; legs brownish flesh-colour; irides brown. Length 5·5 inches; culmen 0·35; wing 3; tail 2·4; tarsus 0·8.

Adult Female: Above greyish-brown, on nape and rump washed with rufous, with dark shaft stripes to feathers of foreparts; hind neck and centre of crown less spotted; sides of crown, ear-coverts dusky brown; lores and superciliary stripe yellowish-white; greater and median wing-coverts dark brown, with fulvous borders, tipped with white; entire under parts pale yellow, tinged with ochre on upper breast; flanks marked, as in male.

Adult (Winter): Much duller, on account of the pale fulvous margins which the feathers assume. Chest band of male bird barely distinguishable.

Immature Male: Paler than adult; back pale brown washed on crown and rump with chestnut and boldly striped with dark brown; wing-bars indistinct; pectoral band indicated by a few dull brown marks.

Young in first plumage: Similar but more ochreous brown above, under parts ochreous, becoming clearer yellow on centre of breast, which is much streaked; flanks also streaked with rich brown.

Distribution: Summer visitant to Northern Asia and Northern Russia, wintering in China, the Himalayas, and occurring rarely in Southern Europe.

Habitat: Damp regions among undergrowth, also on dry, bushy plains.

RUSTIC BUNTING.

Emberiza rustica *Pall.*

Adult Male (Summer): *Crown* and sides of head *black, superciliary stripe and throat white; chest-band bright bay;* back and scapulars reddish-brown, mottled with black and bordered broadly with buff; rump rich bay; wings dark brown, bordered with buff and crossed by two white bars; tail dark brown, outermost pair of feathers chiefly white; breast and abdomen white; flanks broadly streaked with bay; top of bill brown, yellowish beneath; legs and feet flesh-coloured; irides dark brown. Length 5·5 inches; culmen 0·35; wing 3·2; tail 2·4; tarsus 0·75.

Adult Female (Summer): Generally duller: brown on the head, where on the male black appears; bay collar much duller; superciliary stripe smaller and throat buffish; rump as bright as in the male.

Young Male (Autumn): Similar to female, but decidedly paler on the head, nape marked with bay; chin, throat, sides of neck and chest buffish, with bay spots across latter; rump and thighs broadly marked with bay.

Distribution: Breeds in North-eastern Europe, occasionally straggling westward; ranges across Siberia to Japan, and occurs in winter southward to China.

Habitat: Cultivated regions; fir woods. Dense scrub.

LITTLE BUNTING.

Emberiza pusilla *Pall.*

Adult Male (Summer): *Crown* and sides of head

chestnut; a deep *black stripe bordering the crown on either side*, broadening as it proceeds backwards; back, rump, and upper wing-coverts dark brown, bordered with light brown and chestnut; quills, greater and lesser coverts dark brown, the former margined with light brown and the latter with greyish-white, tipped with light buff, forming two bars across the wing; tail-feathers dark brown, with paler edges, except two outermost feathers, which have considerable elongated patches of white on inner webs; *beneath white, streaked on breast and flanks with black;* chin pale chestnut; bill dark brown, paler beneath; legs, feet and irides dark brown. Length 5 inches; culmen 0·35; *wing 2·8;* tail 2·3; tarsus 0·75.

Adult Female (Summer): Very similar to male, but shows less bright chestnut on the head; crown stripes broader and brown instead of black; less chestnut on chin and band across chest less clearly defined.

Adult (Winter): Has feathers of upper parts bordered with dull brown, somewhat obscuring the dark streaks; under parts washed, especially on breast and flanks, with buff.

Young (Autumn): Resemble adult female, but feathers of upper parts are more rufous, dark stripes less clearly defined and under parts just tinged with rufous.

Distribution: Summer visitant to North-eastern Europe and Siberia, wintering in India and China. Of casual occurrence in many European countries.

Habitat: Damp bush-covered localities; occasionally larch woods.

REED BUNTING.

Emberiza schœniclus *Linn.*

Adult Male (Summer): *Crown*, sides of head, chin and *throat black;* a white line runs from bill on either side of throat, joining a *white collar*, which again is bordered with grey; *back* feathers *brownish-black*, bordered with bay and ochreous; rump and upper tail-coverts brownish-black marked with iron-grey; quills dark brown, margined with yellowish-white; upper wing-coverts chiefly ochreous; secondaries very broadly margined with reddish-brown; tail dark brown, two central feathers having broad pale edges; outermost rectrices margined externally with white, and patched with same on inner

webs, chest black, the under parts otherwise white, clouded and streaked with brown on the flanks; bill dull brown above, paler beneath; legs, feet and irides brown. Length 6 inches; culmen 0·35; *wing 3·2;* tail 2·75; tarsus 0·75.

Adult Female (Summer): Crown and ear-coverts dark brown, mixed with reddish-brown; lores, superciliary stripe and under parts dull white; throat bordered on either side by broad line of dark brown blotches; chest and flanks spotted and streaked with brown; otherwise marked very much as the male.

Adult Male (Winter): Feathers above bordered with light reddish brown, though in very old birds the crown feathers are only tipped with brown; white collar much obscured; feathers of chin and throat also pale tipped.

Young: Paler above than the adult female, owing to the length of the light borders of the feathers; sides of head duller, and less marked on sides of throat.

Nestling: Above dull brown, marked with buffish here and there and broadly streaked, especially on centre of back and crown, with dark brown; beneath pale buffish, marked, especially on sides of throat and breast, with dark brown.

Distribution: Resident throughout the Palearctic Region in suitable localities.

Habitat: Marshy thickets; reed beds.

LARGE-BILLED REED BUNTING.

Emberiza pyrrhuloides *Pall.*

Adult Male: Generally *larger than E. schœniclus;* back considerably paler, the feathers having broad white margins; quills with whitish margins; rump nearly white; central rectrices broadly margined with whitish; beneath as in *E. schœniclus. Length 7 to 7·25 inches; height of bill at base 0·32*; wing 3·5; tail 3·25; tarsus 0·8.

Adult Female: Similar to female of *E. schœniclus* but larger; bill larger and thicker at base; plumage generally paler.

Adult Male (Winter): Dark parts above washed with creamy-ochreous; feathers of head and throat tipped with the same; under parts washed with yellowish.

Distribution: Resident in South-eastern Russia, ranging eastward to Yarkand.

Habitat: Probably similar to that of *E. schœniclus*.

Genus PLECTROPHANES.

SNOW BUNTING. ?

Plectrophanes nivalis (*Linn.*)

Adult Male (Summer): *Back* and scapulars *black*, the former usually mottled, on lower part, with white; primaries, tertiaries and bastard wing black; *head*, neck, upper wing-coverts and secondaries *white;* tail, with three inner pairs of feathers, black altogether, or bordered and tipped with white; rest of tail-feathers and *entire under parts white;* bill, legs and feet black; irides brown. Length 6·5 inches; culmen 0·4; wing 4·2 to 4·4; tail 2·5; tarsus 0·75.

Adult Female (Summer): Similar, but black parts margined with grey; white on upper parts more mottled with black and dusky.

Adult Male (Winter): Crown and sides of head shaded reddish-brown; black feathers of the back with broad pale reddish-brown margins; tertiaries broadly bordered with chestnut, wings otherwise as in summer; upper tail-coverts with broad pale brown, or white edges; tail as in summer; beneath dull white, tinged with reddish-brown on breast and flanks; bill yellow, darker at tip.

Adult Female (Winter): Feathers of crown dull chestnut, with black bases; nape of neck similar, but paler; back mottled with black and dull chestnut; tips of lesser wing-coverts and bases of secondaries white; less white on tail; throat dull chestnut, which becomes deeper on chest; rest of under parts dull white; bill dull yellowish.

Young in first plumage: Fore parts above greyish-brown, mottled with darker brown, the chin and throat much paler; upper half of back more or less of a grey tinge; wings and tail much as in adult; chest and sides of body obscurely marked with dusky blackish-brown.

Young Male in Winter: Similar to adult female at same season, but shows more white on wings; under parts whitish, with chestnut band across upper breast.

Distribution: Summer visitant to the Arctic regions. Breeds also in north of Scotland. Migrates southward through most northern countries in Europe, Asia and North America in autumn.

Habitat: Fields, moors, marshy places, bare hill-sides.

LAPLAND BUNTING.

Plectrophanes lapponicus (*Linn*).

Adult Male (Summer): *Head black*, except superciliary stripe, which is yellowish-white; *collar chestnut; back black*, the feathers edged with yellowish-brown; feathers on rump broadly edged with buff; primaries blackish-brown, with pale margins, innermost secondaries and some of coverts more broadly edged with reddish-brown; central tail-feathers dark brown, with pale margins, outermost pair externally margined with white and having large patch of white on inner web; *throat*, upper part of breast *and streaks on sides of body black;* sides of neck below the chestnut collar white; bill yellow, tipped with black; legs and feet black; irides brown. Length 6·25 inches; culmen 0·45; wing 3·75; tail 2·7; tarsus 0·75.

Adult Female (Summer): Feathers of crown dark brown, edged with paler brown; chestnut collar less apparent, the feathers being mottled with dark brown; sides of head dull buff, marked with black; chin and throat dull white, bordered by line of black spots on either side; band of spots also across chest; rest of plumage as in adult male.

Adult Male (Winter): Black and chestnut parts mottled with dark brown and white; chin almost white.

Young in Autumn: Very similar to adult females, but males show no dark centres to feathers of the nape and females little or no black on chest.

Young in first plumage: Similar but more rufous above, and more marked with brown beneath, upon a buffish ground colour.

Distribution: Breeds throughout the Circumpolar regions north of the Arctic Circle. Migrates through Central Europe and Asia in autumn.

Habitat: Marshy moorlands, willow scrub.

Section OSCINES SCUTELLIPLANTARES.

Family ALAUDIDÆ.

Genus ALAUDA.

SKY LARK.

Alauda arvensis *Linn.*

Adult (Summer): *Upper parts generally brown*, feathers marked with darker brown and with pale margins or tips, shaded here and there with rufous; superciliary stripe yellowish; ear-coverts reddish-brown streaked with dark brown; wing quills dusky-brown, edged with rust colour; coverts and innermost secondaries with light broadish borders tinged with rufous; central rectrices dark brown bordered with lighter brown, outermost rectrices chiefly white, next pair with most of outer web white; *beneath yellowish-white*, washed with brown; throat, sides of neck and chest *spotted with* dark *brown;* flanks tinged with rufous and with dark brown; bill brown above, flesh-coloured beneath with a yellowish base; legs and feet yellowish-brown; irides dark brown. Length 7 inches; culmen 0·45; wing 4·25; tail 3; tarsus 0·9; *hind toe with claw 0·5.*

Adult (Winter): Many of feathers above bordered with sandy-grey; lower parts paler and more buff on throat and breast.

Young in first plumage: Above spotted with dark brown and buff, several of the feathers tipped with white; wing and tail feathers evenly margined with buff; centre of throat and abdomen whitish; chest and flanks creamy, on the former spotted with brown.

Distribution: Resident throughout most of the Palearctic Region.

Habitat: Meadows, stubble-fields, commons, or sea-coast.

WOOD LARK.

Alauda arborea *Linn.*

Adult (Summer): Feathers of upper parts brown with very dark brown centres, except on rump; *superciliary stripe conspicuous, yellowish-white* and extending to nape; primary coverts tipped with white: outermost pair of rectrices brown at apex, next two pairs white tipped; *beneath creamy-white*, the *throat and breast* very darkly and *distinctly streaked;* bill brown; legs and feet light brown; irides dark brown. *Length 5·5 inches;* culmen 0·45; wing 3·65; tail 2·25; tarsus 0·8.

Adult (Winter): Upper parts richer and of a more buffish-brown; beneath tinged with rufous on breast and not quite so conspicuously marked; superciliary stripe whiter than in summer.

Immature Birds: More rufous above, the feathers being also bordered with light buff.

Distribution: "Unequally distributed over the Western Palearctic Region, south of latitude 60° N."

Habitat: Cultivated localities usually near trees; borders of commons.

CRESTED LARK.

Alauda cristata *Linn.*

Adult (Summer): *Upper parts brown, varied with darker brown* and buff, becoming reddish-brown upon the crown, where the feathers are elongated into a *crest* with *pointed* ends; wings brown with dark shafts and pale margins; central and outermost pairs of rectrices pale brown, the latter externally margined with yellowish-white, rest of tail-feathers darker brown; superciliary streak pale buff; ear-coverts dark brown; chin and throat white, rest of under parts more or less washed with buff and spotted on chest and sides of throat with brown; axillaries rufous-buff; flanks streaked with brown; bill brown, paler at base; legs and feet pale brown; irides dark brown. Length 6·9 inches; *culmen 0·75;* wing 3·9 to 4·1; tail 2·25 to 2·5; tarsus 1.

Adult (Winter): Very similar to summer dress but duller on account of the grey margins assumed by the feathers above.

Young in first plumage: Above paler and more rufous than adult bird, most of the feathers having a subterminal dark bar and nearly white tip; under parts less conspicuously spotted, the marks more blended together.

Distribution: Resident throughout most of Continental Europe and Asia. Of rare occurrence in the south of England.

Habitat: Cultivated regions, often near human habitations, roadsides, vineyards, &c.

Genus CALANDRELLA.

SHORT-TOED LARK. ✗

Calandrella brachydactyla (*Leisl*).

Adult: *Above brown*, with dark centres to the feathers; *crown and back* (especially former) distinctly *washed with fawn* colour; wing-feathers greyish-brown with pale borders; outer primary margined with pale buff; tail-feathers dark brown, outermost pair with centre webs chiefly creamy-white, next pair with terminal part of outer web the same; central rectrices bordered with light sandy-grey; lores and superciliary stripe creamy-white; cheeks marked with dark brown, under parts dull white, shaded with brownish-buff on chest; *sides of neck with a few obscure blotches of dark brown;* flanks washed with brownish-buff; bill flesh-colour, darker on ridge of culmen; legs and feet light brown; irides olive-brown. Length 5·5 to 5·75 inches; culmen 0·4; wing 3·5; tail 2·25 to 2·4; tarsus 0·75.

Immature Birds: Have the feathers margined externally with buff and show more brown markings on the sides of throat.

Distribution: Resident in Southern Europe and Northern Africa, occurring eastward as far as India. Seen occasionally in south of England.

Habitat: Sandy plains, ploughed fields.

ANDALUCIAN SHORT-TOED LARK.

Calandrella bætica *Dresser.*

Adult: *Similar* to the preceding *but* much *darker* and *more copiously marked beneath;* outermost tail-feathers much whiter than in *C. brachydactyla.* Bill horn-brown; legs and irides brown. Length 5·5 inches; culmen 0·4; wing 3·3; tail 2; tarsus 0·75.

Distribution: Summer visitant to Southern Spain, probably wintering in North-eastern Africa.

Habitat: Corn-lands.

PALLAS'S SHORT-TOED LARK.

Calandrella pispoletta (*Pall*).

Adult: Feathers above brownish-grey, with darker centres; quills dark brown with whitish margins, *tertiaries about an inch shorter than the longest primaries;* wing-coverts broadly edged with pale brown, tail-feathers chiefly blackish brown, except outermost pair, which are chiefly white, central pair washed with light brown; streak above and below the eye whitish; under parts white; sides of neck, breast and flanks spotted and streaked with brown; bill horn-colour; legs light brown; irides dark brown. Length 6·6 inches; culmen 0·5; *wing 3·8;* tail 2·3; tarsus 0·85.

Female: Slightly smaller.

Distribution: Resident in Southern Russia.

Habitat: Similar to *C. brachydactyla.*

Genus MELANOCORYPHA.

CALANDRA LARK.

Melanocorypha calandra (*Linn*).

Adult: General colour above greyish-brown, with darker centres to the feathers; superciliary stripe ill-defined and

reaching far back; primaries and secondaries brown, former edged externally with white and latter with white tips; *outermost rectrices chiefly white*, next pair narrowly edged and tipped with white, rest edged and tipped with pale brown; beneath white, the flanks washed with dirty grey and isabelline; *sides of chest with very distinct patches of black;* breast spotted with brown; *bill (very stout)* dull brown, yellowish at base beneath; legs and feet brown; irides blackish. Length 6·6 to 7 inches; culmen 0·65; wing 4·8 to 5; tail 2·7; tarsus 1·1.

Adult Female: Similar, but shows hardly so much black on sides of chest.

Immature Birds: Similar, but upper plumage more rufous and mixed with buff; black neck patches imperfectly developed.

Distribution: Resident in most countries bordering the Mediterranean. Of rare occurrence in Central Europe.

Habitat: Open country, meadows, vineyards, &c.

Note.—This species, like most of the Alaudidæ, seems to be liable to much variation in tint. We have old birds in winter plumage which are very grey, whilst another bird shot at the same season is remarkably rufous above.

WHITE-WINGED LARK.

Melanocorypha sibirica (*Gmel*).

Adult Male: Feathers of back brownish-grey, with darker centres, tinged here and there with rufous; *crown*, ear-coverts *and upper tail-coverts* distinctly *rufous;* lores and region round the eye white; primaries dark brown, edged with dull white externally, some of inner ones broadly tipped and internally margined with white; *secondaries white*, with dark brown bases; prevailing colour of coverts rufous; outermost tail-feathers white, next pair white on the outer web, central rectrices dark brown, broadly bordered with rufous; under parts white, with dusky spots on sides of throat; chest spotted with rufous and flanks streaked with brown and rufous; bill horn-brown, paler beneath; legs, feet and irides brown. *Length 7 to 7·5 inches;* culmen 0·45; wings 4·75; tail 2·8; tarsus 0·95.

Adult Female: Somewhat duller than the male, otherwise similar.

Young: "Are said to resemble those of the skylark, from which, however, they can be readily distinguished by their larger size and stouter bill; the breast also is less distinctly spotted and the feathers of the upper plumage are tipped with pure white." (Newton.)

Distribution: Resident in parts of Russia and Central Asia. Occurs occasionally in Austria, Italy, &c.

Habitat: High steppe regions.

BLACK LARK.

Melanocorypha yeltoniensis (*Forst*).

Adult Male (Summer): Entire *plumage black*, some of the feathers of upper parts with sandy or whitish margins, which are also often observable beneath. Length 7·5 inches; culmen 0·6; *wing 5·3*; tail 3; tarsus 0·8.

Adult Female (Summer): Above sandy-brown becoming tinged with rufous towards rump and mottled on crown with dusky-brown; wing-quills and coverts dark brown margined with sandy-brown; outermost primaries margined with white; tail dark brown with sandy margins, except outermost rectrices, which are margined with white; lores and superciliary stripe white; under parts white, tinged on flanks with buff; breast spotted and flanks striped with brown; bill brown, yellowish at base; legs and feet dark grey.

Adult Male (Winter): Similar to summer plumage but feathers more uniformly margined with sandy both above and beneath.

Adult Female (Winter): Very similar in general appearance to the summer dress, but the feathers assume broad grey margins as in the male bird, giving it a paler appearance than in summer.

Immature Birds: Resemble the adult female, but are more marked with brown above; wing-coverts and innermost secondaries narrowly margined with whitish.

Distribution: Winter visitant to Southern Russia, breeding in Central Asia.

Habitat: High steppe regions; rocky places.

Genus OTOCORYS.

EUROPEAN SHORE LARK.

Otocorys alpestris (*Linn*).

Adult Male: Frontal band, superciliary stripe, ear-coverts, chin, throat and *sides of throat (between ear-coverts and chest-band) white*, washed with pale yellow: lores, cheeks, fore part of crown, *erectile ear-tufts and chest-band black;* hind crown, nape and upper tail-coverts pale brown tinged with pink, back feathers with dark brown centres; wings dull brown with pale margins, outermost primary externally margined with white; tail-feathers blackish-brown, outermost externally margined with white, central pair light brown with dark centres; breast and abdomen white; flanks tinged with brown; bill bluish; legs and feet nearly black; irides dark brown. Length 7 inches; culmen 0·4; wing 4·25; tail 2·8; tarsus 0·8.

Adult Female: Somewhat smaller; erectile feathers at sides of crown wanting; sides of face mottled with black; pink tinge on upper parts less apparent; colour of under parts less pure, black on chest less in total area.

Nestling: Above dark brown, the feathers bordered with yellowish; cheeks and throat pale yellow. The former mottled and the latter streaked with black: bill, legs and feet dirty flesh-colour.

Distribution: Northern Europe, Asia and America, occurring on migration in most countries of Europe.

Habitat: High mountain regions, or in winter low cultivated lands, near the sea.

EASTERN SHORE LARK.

Otocorys penicillata (*Gould*).

Adult Male (Summer): *Above very much as in O. alpestris, but paler*; the white on the head purer; erectile feathers on crown very long; the *black on the cheeks joining that on the chest*, which with rest of under parts is white, that upon the latter being more extended and reaching almost to the

chin; bill, legs and feet as in *O. alpestris*. Length 7 inches; culmen 0·55; wing 4·5; tail 3; tarsus 0·8.

Adult Female (Summer): Duller and browner than male; erectile feathers of head shorter; ear-coverts mottled with brown, which also takes the place of black on the forehead; area covered by black on chest a little less than in male. That on sides of face less pronounced.

Adult Male (Winter): Somewhat duller and paler than in summer; several of the head feathers being margined with brown. It is, however, easily distinguishable from the preceding species by the black on cheeks joining that on chest.

Distribution: Resident from Asia Minor eastward to the Altai mountains. Found on the steppes of South-eastern Russia.

Habitat: Similar to that of *O. alpestris*.

Section OSCINES CULTRIROSTRES.

Family STURNIDÆ.

Genus STURNUS.

STARLING.

Sturnus vulgaris *Linn.*

Adult Male (Summer): *Entire plumage black, shot with purple, green or steel-blue;* feathers of upper parts chiefly marked with terminal *triangular spots of cream-colour:* wings and tail blackish, with pale brown margins, glossed here and there with green or purple like the back; *bill yellow*, blue at base; legs and feet dark reddish-brown; irides hazel-brown. Length 7·5 to 8 inches; culmen 1; wing 5 to 5·15; tail 2·75; tarsus 1·15.

Adult Female: Resembles the male, but is duller throughout, including the bill, and more freely spotted.

Adult Male (Winter): Feathers on the back, scapulars and rump more conspicuously spotted with whitish or pale buff; bill dull horn-colour; under parts also more conspicuously spotted, but with much smaller spots than the back feathers.

Young in first plumage: Ashy-brown both above and below; wing and tail-feathers margined with pale reddish-brown; chin and throat whitish, the latter shaded with brown; bill dark horn-colour, legs and feet dusky brown.

Young after first moult: Assume the adult plumage in patches, commencing on sides of breast.

Distribution: Resident over most of Europe south of lat. 60° N., ranging eastward to Northern India. In some parts of Southern Europe occurs only in winter.

Habitat: Pastures, gardens, farmyards, &c.

SARDINIAN STARLING.

Sturnus unicolor *De la Marm.*

Adult Male (Summer): Entire plumage black, *unspotted*, glossed with violet-purple; *feathers of under parts* longer and *more lanceolate* than those of *S. vulgaris*; bill, legs, feet and irides as in *S. vulgaris*. Length 7·5 inches; culmen 1·0; wing 5; tail 2·5; tarsus 1·2.

Adult Female: Similar to male, but browner and less glossy.

Adult Winter: "According to Loche, at this season of the year both sexes have a few small white spots on the back and abdomen" (Dresser).

Young in first plumage: Very like young of *S. vulgaris*, but are more uniform.

Young Male (Winter): Entire plumage washed with silvery-grey and extreme tips of lanceolate feathers both above and beneath whitish.

Distribution: Resident on the northern shores of the Mediterranean and on its islands.

Habitat: Fields and plains, neighbourhood of dwellings.

Genus PASTOR.

ROSE-COLOURED PASTOR.

Pastor roseus (*Linn*).

Adult Male (Summer): *Head*, neck and chest *black*,

glossed with purple; *back, breast and abdomen pale rose-colour;* wings and tail-feathers black, glossed with steel-blue; flanks and under tail-coverts black; bill rose-coloured, blackish at base beneath; legs dull brown, irides reddish-brown. Length 8·5 inches; culmen 0·85; wing 5; tail 2·7; tarsus 1·2.

Adult Female (Summer): Similar to male, but is generally duller and wears a shorter crest.

Adult (Winter): Majority of the feathers margined with pale brown, otherwise similar to summer dress.

Young in first plumage: Above pale greyish-brown, lighter on rump and upper tail-coverts; without any crest; wing and tail feathers dark brown with narrow pale margins: beneath whitish, washed on chest and flanks with pale brown and on the former obscurely mottled with dusky brown: bill brown above, yellow beneath; legs and feet pale brown.

Distribution: Breeds in Southern Europe and occurs casually on migration in most countries in Central and Northern Europe. Found in India in winter; rare in Africa.

Habitat: Regions infected by locust, cultivated districts, like the starling.

Family CORVIDÆ.

Genus PYRRHOCORAX.

CHOUGH.

Pyrrhocorax graculus (*Linn*).

Adult: Entire *plumage glossy black*, with steel-blue reflections, wing and tail feathers with a violet tinge; *bill* (*long and decurved*) *legs and feet coral-red;* claws black, irides brown. Length 15·5 to 16 inches; culmen 1·8; wing 10·9 to 11·25; tail 5·5; tarsus 2.

Immature Birds: Similar, but duller and less glossy: bill and legs brownish-orange at first, assuming in the intermediate stage a reddish-orange, before becoming coral-red, as in adult.

Distribution: Resident throughout most of the mountainous districts of Central and Southern Europe. Locally resident in Great Britain.

Habitat: Rocky localities inland, or sea cliffs.

ALPINE CHOUGH.

Pyrrhocorax alpinus *Koch.*

Adult: *Plumage, uniform black: bill straight, yellow;* legs and upper parts of feet coral-red; claws and soles black. Length 15·5 inches; culmen 1; wing 10·25; tail 6: tarsus 1·7.

Immature Birds: Duller and browner than adults: bill and legs at first chiefly blackish, then becoming respectively yellowish and browner, before assuming the bright yellow and coral-red of the adult.

Distribution: Found in Southern Europe and the higher mountainous districts of Central Europe and eastward occurs as far as the Himalayas.

Habitat: Similar to that of *P. graculus*, but frequenting higher mountain regions.

Genus NUCIFRAGA.

NUTCRACKER. X

Nucifraga caryocatactes (*Linn.*)

Adult: Upper and under parts *dark brown*, and, except on the crown, conspicuously *covered with white spots*, which become larger on the breast and abdomen. On the throat they appear only in narrow lines; wings and tail-feathers dark brown, shaded with green; all the rectrices except the central pair broadly tipped with white; some of primaries with a white patch on inner webs; most of wing-coverts tipped with white; under tail-coverts white; bill, legs and feet blackish; irides dark brown. Length 12 to 12·75 inches; culmen 2: *wing 7 to 7·75;* tail 5·3; tarsus 1·6.

Immature Birds: Except for being darker brown and having dirtier white spots, resemble adults.

Distribution: Breeds in the mountainous regions of Europe as far south as the Pyrenees. Found eastward to Japan. Of casual occurrence in Great Britain.

Habitat: Elevated forests chiefly of coniferous trees.

Genus PERISOREUS.

SIBERIAN JAY.

Perisoreus infaustus (*Linn*).

Adult: *Crown* and nape *sooty-brown;* feathers covering nostrils yellowish; *back*, chin, throat *and breast grey; rump*, upper tail-coverts and bases of rectrices (except central ones) *foxy-red;* central rectrices and tips of the others dark grey: wings shaded grey; some of primaries marked with rufous at base on outer webs; greater wing-coverts rufous on outer web: abdomen and flanks rufous; bill, legs and feet black. Length 12·5 inches; culmen 1·05; wing 5·6; tail 5·7; tarsus 1·4.

Immature Birds: Are duller throughout, otherwise similar.

Distribution: Resident in Northern Scandinavia and Siberia.

Habitat: Conifer forests.

Genus GARRULUS.

COMMON JAY. ✓

Garrulus glandarius (*Linn*).

Adult: *Feathers of crown whitish*, tinged with buff and *tipped with black*, which in the longer ones appears as a median stripe; hinder crown feathers speckled and barred with vinaceous-brown; rump and upper tail-coverts white; rest of *upper parts vinaceous-brown;* primaries dusky brown, margined externally with white; secondaries black with white basal patch on outer web, and often more or less tinged with blue; innermost secondaries chestnut, patched in front with black, outermost ones chiefly black; *wing-coverts* very *glossy* and transversely *barred with* shaded *blue and black;* tail-feathers blackish, barred with bluish at bases; chin and throat whitish, bordered on either side by a broad patch of black, rest of under parts pale cinnamon shading into white at vent; legs and feet pale brown; bill almost black; irides very pale blue. Length 13 to 14 inches; culmen 1·15; wing 7·25; tail 6·5; tarsus 1·5.

Immature Birds: Very similar, but their irides are brown and not pale blue as in adults.

Distribution: Resident throughout most of Europe, except in the extreme north.

Habitat: Wooded districts, gardens, &c.

BLACK-HEADED JAY.

Garrulus atricapillus *St. Hilaire.*

Adult: Differs chiefly from *G. glandarius* in having the *crown black*, the forehead and chin almost white and the *back* distinctly *greyish*. Length 13 to 14·5 inches; culmen 1·2; wing 7·4 to 8; tail 6·3; tarsus 1·75.

Young: Somewhat duller than adults.

Distribution: Resident in Eastern Turkey, Asia Minor, Syria and the Caucasus.

Habitat: Similar to that of *G. glandarius*.

Genus CYANOPICA.

AZURE-WINGED MAGPIE.

Cyanopica cooki *Bp.*

Adult: *Top and sides of head and nape glossy black* with purplish shade; back and rump brownish-grey, shaded on tail-coverts with bluish-grey; primaries black, margined with blue near bases and with white towards their apices; *secondaries and tail*-feathers rich *blue*, some of former marked with black on inner webs; chin white; rest of under parts more or less deep brownish-grey; bill, legs and feet black; irides blackish-brown. Length 13·5 inches; culmen 1; wing 5·25; tail 8; tarsus 1·35.

Young: Similar to adult, but duller, having also many of their feathers margined with greyish.

Distribution: Resident in Spain and Portugal.

Habitat: Very similar to that of *P. rustica*.

Genus PICA.

MAGPIE.

Pica rustica (*Scop*).

Adult and Young: Fore parts including *back* deep *black*, glossed with greenish; *rump greyish;* tail-coverts black; scapulars pure white; primaries black, glossed with green, and having a large patch of white on inner webs; secondaries brilliantly glossed with violet; *tail* long and graduated, black beneath; richly *glossed with greenish-bronze above*, except towards tip, where it is purple shading into black at the actual tip; chin, throat and chest black, some of the throat-feathers showing greyish shafts; lower breast and abdomen white; vent black; bill, legs and feet black; irides brown. Length 16 to 18·5 inches; culmen 1·25; wing 7; tail 11; tarsus 1·85.

Distribution: Generally distributed throughout most of the Western Palearctic region.

Habitat: Woodland or cultivated districts where tall trees abound.

Genus CORVUS.

JACKDAW.

Corvus monedula *Linn.*

Adult: Crown, lores and chin glossy *black; hinder crown*, neck and sides of head *silvery-grey;* rest of upper parts glossy black, tinged with grey on back and rump; wings and tail purple glossed: under parts black, tinged with grey; bill, legs and feet black; iris nearly white. Length 12·5 to 14 inches; culmen 1·2; *wing 9;* tail 5·5; tarsus 1·6.

Immature Birds: Resemble adults, but are much duller and blacker both above and beneath, especially on neck.

Distribution: Generally distributed over Northern and Central Europe; less so in Southern Europe; also occurs in Northern Africa.

Habitat: Tall buildings, old ruins, precipitous cliffs. Gregarious.

ROOK. ✓

Corvus frugilegus *Linn.*

Adult: *Forehead*, sides of face chin *and upper throat bare of feathers*; rest of *plumage black, glossed with blue*; bill and legs black; irides dark brown. Length 17·5 to 20 inches: culmen 2·1; wing 12 to 12·75; tail 6·5; tarsus 2.

Young: Similar to adults but duller and less glossy above: region round the base of the bill feathered. Frequently young birds show a spot or a few feathers of white on the chin, but not in all cases. In this stage the rook may be distinguished from *C. corone* by a much *slenderer bill.*

Distribution: Generally distributed in most parts of the Western Palearctic region, extending eastward into India.

Habitat: Cultivated regions. Gregarious.

CARRION CROW. ✓

Corvus corone *Linn.*

Adult: Entire *plumage black*, above beautifully *glossed with green and purple*; under parts also glossed, but to a less extent; *nostrils covered by bristly feathers; bill stouter* than in *C. frugilegus*, legs and feet black; irides brown. Length 17 to 18 inches; culmen 2; wing 12 to 13 inches; tail 8; tarsus 2·3.

Young: Similar, but lack the gloss of the adult.

Distribution: Inhabits most of the Western Palearctic region except where replaced by *C. cornix*, ranging into India and China.

Habitat: Cultivated and wooded regions, usually solitary in habits.

HOODED CROW. ✓

Corvus cornix *Linn.*

Adult: *Head*, throat and centre of chest *black*, glossed with

purple; *neck*, *back*, scapulars, rump, *and most of lower parts ashy-grey; wings and tail black*, glossed with purple or in some lights with greenish; many of grey feathers show dusky shafts; bill, legs and feet black; irides brown. Length 17 to 19 inches: culmen 2·2; wing 12 to 13 inches; tail 7·8; tarsus 2·2.

Young: Head dull black, not glossy; grey parts duller, especially on hind neck, where the feathers are dusky: upper tail-coverts blackish, without any perceptible grey margin.

Distribution: Central and Southern Europe; a winter visitant to England, breeding regularly in Scotland and Ireland.

Habitat: Similar to *C. corone*.

Note.—Owing to the close interbreeding of the two species last described, some authors are led to consider them as specifically identical.

RAVEN.

Corvus corax *Linn.*

Adult: Entire *plumage black*, glossed, especially above, with steel-blue and purple; *feathers on throat lanceolate;* bill, legs and feet black; irides brown. Length 25 to 26 inches: culmen 3·15; *wing 17 to 17·25;* tail 10·25; tarsus 2·65. Female slightly smaller than the male.

Young: Very similar, but feathers of the throat are not lanceolate and the plumage generally is duller.

Distribution: Found throughout the Palearctic region.

Habitat: Usually frequents barren mountainous regions. Generally to be seen in company with another of the same species.

Order MACROCHIRES.

Family CYPSELIDÆ.

Genus CYPSELUS.

SWIFT.

Cypselus apus (*Linn.*)

Adult: *Chin and throat white;* rest of *plumage* very *sooty-brown;* bill and feet black; irides dark brown. *Length 8 to 8·5 inches;* culmen 0·4; wing 6·8 to 8; tail 3·15; tarsus 0·6.

Young: Similar but have purer white throats and feathers of forehead and under parts are more or less margined with whitish.

Distribution: Summer visitant to most of Palearctic region, wintering in Africa.

Habitat: Flying wherever insects abound about buildings or cliffs.

PALLID SWIFT.

Cypselus pallidus *Shelley.*

Adult: *Above uniform brownish-grey*, inclining to white on forehead; feathers before eyes blackish; wings and tail-feathers greyish-brown; chin and throat white; sides of head and neck pale greyish-brown; feathers of breast and abdomen darker greyish-brown, some having whitish tips; bill black; feet dark purplish-brown. *Length 6 inches;* culmen 0·3; wing 6·6; tail 3; tarsus 0·5.

Distribution: Summer visitant to Spain, North-eastern Africa, Madeira and the Canaries.

Habitat: Probably similar to that of *C. apus.*

WHITE-BELLIED OR ALPINE SWIFT.

Cypselus melba (*Linn.*)

Adult: Above dark greyish-brown, paler on forehead, feathers before the eye blackish; *beneath white*, except *chest*, a few of flank feathers and under tail-coverts, which are *brown*; bill and feet black; irides very dark brown. *Length 8 inches:* culmen 0·4; wing 8·7 to 9·2; tail 3·75; tarsus 0·6.

Young: Like adults but greyer, most of dark feathers margined with whitish.

Distribution: Summer visitant to Central and Southern Europe as well as in Northern Africa, wintering in Southern Africa.

Habitat: Usually in more elevated districts than *C. apus*.

Family CAPRIMULGIDÆ.

Genus CAPRIMULGUS.

NIGHTJAR.

Caprimulgus europæus *Linn.*

Adult Male: Above ashy-grey, darker on centre of back and on the rump paler; whole of upper parts vermiculated and richly streaked with blackish (especially on crown); wings dark brown, slightly shaded with chestnut, crossed by sandy-coloured bars; *three first primaries with subterminal spot of white;* tail like the back; *two outermost rectrices* on either side *broadly tipped with white;* beneath pale orange-buff barred, especially on throat and chest, with dusky, on either side of throat a white spot; bill black; legs and feet reddish-brown; irides black. *Length 10 inches;* culmen 0·3; wing 7 to 7·75; tail 5·3; tarsus 0·7.

Adult Female: Resembles the male, but the wing and tail spots are pale buff.

Young: Very similar to adults.

Distribution: Summer visitant to the Western Palearctic region, migrating to Central Africa in autumn.

Habitat: Well sheltered localities, partial to juniper bushes. Nocturnal.

RED-NECKED NIGHTJAR.

Caprimulgus ruficollis *Temm.*

Adult Male: Resembles *C. europæus* very closely, but has the *nape* and chin *rufous-buff;* white spots on sides of neck more developed, wing-coverts and under parts showing more buff. *Length 13 inches;* wing 7·9; tail 5·3; tarsus 0·95.

Adult Female: Closely resembles the male.

Young: Buffer than young of *C. europæus.*

Distribution: Summer visitant to Spain, Portugal, and North-western Africa, probably migrating to Central Africa in autumn. Has occurred in England.

Habitat: Similar to that of *C. europæus.*

Order PICI.

Family PICIDÆ.

Sub-family PICINÆ.

Genus PICUS.

GREAT BLACK WOODPECKER.

Picus martius *Linn.*

Adult Male: Entire *plumage black* or brownish-black, except the *crown*, which is *crimson;* bill dull bluish, blackish towards tip; legs and feet dark grey; irides light yellow. Length about 18 inches; culmen 2·3; wing 9·2; tarsus 1·3; tail 7·2.

Adult Female: Very like the male, but somewhat browner and having the *crimson confined to the occiput.*

Young: Similar, but duller, and the red patch on the crown imperfectly developed.

Distribution: Ranges from Scandinavia throughout Northern Asia to Japan.

Habitat: Dense forests.

GREAT SPOTTED WOODPECKER. ✓

Picus major *Linn.*

Adult Male: Forehead buff; crown and back glossy black; a *patch on hinder head crimson;* sides of face white; from base of bill to nape runs a broad black band; another black band traversing sides of chest; centre of hind neck black, with two large white blotches on either side; *scapulars white;* quills black, the primaries spotted with white on both webs, longest feathers having five or six such spots; *rump* and

central tail-feathers *black;* outer ones barred alternately with black and white or brownish; under parts brownish cream-colour; vent and *under tail-coverts crimson;* bill, legs, and feet dark grey; irides pale red. Length 9·25 inches; culmen 1·15; wing 5·5 to 6; tail 4; tarsus 0·95.

Adult Female: Similar to male but has the *entire crown* and hinder neck *black* with no trace of red; red on lower abdomen and vent not so brilliant.

Young: Very similar, but have the *entire crown crimson;* under parts duller than in adults, and often streaked with brown on sides of body.

Distribution: Pretty generally distributed throughout the European continent.

Habitat: Large deciduous woods.

WHITE-BACKED WOODPECKER.

Picus leuconotus *Bechst.*

Adult Male: *Entire crown crimson;* forehead, entire sides of face and nape white; centre of nape, back and scapulars black; *rump white* or marked here and there with black; upper tail-coverts black; wings blackish; innermost secondaries barred, and primaries spotted on both webs with white; tail-feathers black, except outer ones which are white, barred with black; throat bordered on either side by broad band of black which widens out on the sides of the neck; under parts creamy-white, shading into vermilion on lower abdomen and vent; *sides of body striped with black;* bill horn-blue; feet leaden-grey; irides nut-brown. Length 10·3 inches; culmen 1·3; wing 5·75; tail 3·9; tarsus 1.

Adult Female: Crown black; black on sides of neck more extended, almost reaching to crown.

Young: Resemble adults, but the red of the crown is paler (in young females yellower); no red on abdomen; flanks grey, striped with black.

Distribution: Resident in Northern and Eastern-central Europe.

Habitat: Similar to that of *D. major*, but frequents plains chiefly, not mountainous regions.

GRECIAN WOODPECKER.

Picus lilfordi *Sharpe and Dresser.*

Adult Male: Resembles preceding, but has upper part of back, and *bars across all the white parts black*; forehead, sides of face and ear-coverts yellowish-white; hinder extremity of black band, bordering sides of throat, extended laterally, reaching above almost to the crown, and beneath nearly to the centre of the chest; under parts much more generally suffused with red than in *D. leuconotus*; bill, legs and feet leaden-grey: irides reddish. Length 10·5 inches; culmen 1·6; *wing 5·2*; tail 3·8; tarsus 1.

Adult Female: Crown black, less striped beneath.

Distribution: Resident in Turkey, Greece, and probably in Southern Russia.

Habitat: Similar to that of *D. major*.

MIDDLE SPOTTED WOODPECKER.

Picus medius *Linn.*

Adult Male: Forehead buff; fore part of *crown crimson*, *bordered* on either side *with white*; sides of head whitish; occiput black; entire chin and *throat* white, *not bordered by black*: chest tinged with yellowish and crossed by a crescentic band of black, which nearly meets in the centre; breast and abdomen washed with rose-colour; sides striped with black: bill slender, bluish-grey; legs and feet leaden-grey; irides cinnabar-red; in other respects like *D. major*. Length 8 to 8·5 inches; culmen 1; *wing 4·8*; tail 3·3; tarsus 0·8.

Adult Female: Similar but somewhat paler, and shows less black upon the chest.

Young: Less crimson on crown; back tinged with brown: breast yellowish-white, shading into pale crimson on lower abdomen; sides more copiously streaked with black.

Distribution: Resident in most temperate countries of the European continent. Does not occur in Great Britain.

Habitat: Usually to be met with in deciduous woods, partial to oak and beech.

LESSER SPOTTED WOODPECKER.

Picus minor *Linn.*

Adult Male: Like *D. major* in miniature; differs however in having the *rump* and innermost secondaries *barred with white;* the *crown scarlet;* sides of face brownish-white; throat bordered (as in *D. major*) with black bands, but these do not join the black of the nape; no red on the under parts; sides of body streaked more or less with brown; bill, legs and feet very dark grey; irides reddish-brown. Length 5·7 inches; culmen 0·6; *wing 3·7;* tail 2·25; tarsus 0·5.

Adult Female: Forehead white, *no red on crown;* otherwise similar.

Young: Resemble adults, but the markings are less clearly defined.

Distribution: Resident throughout most of the Western Palearctic region, excepting in Egypt and Palestine, Iceland and the Faroes.

Habitat: Similar to that of *D. major.*

SIBERIAN LESSER SPOTTED WOODPECKER.

Picus pipra *Pall.*

Adult Male: White parts more extended than in *D. minor.* lower back and rump showing very little black; *beneath pure white or slightly striated on the sides of the body and under tail-coverts;* outer rectrices very slightly marked with black: soft parts as in *D. minor. Length 6·5 inches;* culmen 0·72: wing 3·8; tail 2.7; tarsus 0·68.

Distribution: Resident in North-eastern Europe and Siberia.

Habitat: Large conifer forests, as well as deciduous woods.

Genus PICOIDES.

THREE-TOED WOODPECKER.

Picoides tridactylus (*Linn*).

Adult Male: Forehead black and white; *centre of crown yellow;* sides of crown and nape black; *middle of back white;* scapulars, wing and upper tail-coverts black; wings glossy brownish-black; primaries spotted and tipped with white; outer tail-feathers barred and tipped with white, rest of tail black; sides of face and moustachial stripe black (the latter illl defined); large blotch on either side of occiput white; bil- dark grey; legs and feet leaden-brown; *toes three in number;* irides dark reddish-brown. Length 9 inches; culmen 1·1; wing 5; tail 3·4.

Adult Female: Crown black, marked with white, showing no yellow; wings browner; sides of chest slightly streaked with black.

Young: Very nearly resemble adult males, but have less yellow on crown; black parts browner and the back and under parts below chest copiously marked with black.

Distribution: Frequents Northern Europe and some parts of Central Europe. No authentic record from Great Britain.

Habitat: Large woods or forests in sub-Alpine regions.

Genus GECINUS.

GREEN WOODPECKER.

Gecinus viridis (*Linn*).

Adult Male: *Crown* and nape *scarlet* mixed with grey *back*, scapulars and wing-coverts *green;* rump yellow; primaries brown, spotted on their outer webs with yellowish-white; secondaries broadly washed on outer webs with green; tail-feathers brown washed with green and obscurely barred; lores, *region round eyes and moustachial band black*, the latter washed with crimson; sides of neck and under parts greyish-green, shaded on abdomen with yellowish; bill very dark grey, paler at base beneath and blackish at tip; legs and feet dark grey;

irides whitish. Length 11·5 to 12 inches; culmen 1·5; wing 6·25 to 6·4; tail 4·2; tarsus 1.

Adult Female: No scarlet upon moustachial band, and less upon the crown.

Young in first plumage: Barred throughout above and beneath, black absent round the eyes, that on the cheeks spotted with scarlet in males and with brown in females.

Young after moulting: Greyish-green above, top of head grey, marked with crimson; beneath greenish, barred transversely with dusky-brown.

Distribution: Inhabits the Western Palearctic region, excepting Iceland, Faroes, Northern Africa, Spain and Palestine.

Habitat: Resembles that of other woodpeckers.

SHARPE'S GREEN WOODPECKER.

Gecinus sharpii *Saunders.*

Adult Male: Crown as in *G. viridis;* lores, *region round eyes and ear-coverts grey;* a broad *moustachial patch* on either side of upper throat *crimson;* rump and upper tail-coverts more conspicuously yellow; fore parts beneath greenish-grey; hinder parts greenish-yellow; bill yellowish at base beneath; in all other respects closely resembles *G. viridis.* Length 10·75 inches; culmen 1·5; wing 6·25 to 6·5; tail 4·2; tarsus 1·1.

Adult Female: Moustachial stripe black, otherwise similar to the male.

Young: Mottled with dusky-brown both above and beneath; sides of face grey, streaked with dusky; moustachial stripe smaller, but washed with crimson in young males.

Distribution: Resident in Central and Southern Spain.

Habitat: Closely resembles that of *G. viridis.*

GREY-HEADED GREEN WOODPECKER.

Gecinus canus (*Gmel*).

Adult Male: Differs from *G. viridis* in having *hinder part of head and nape dusky-grey*, the fore part of the head only crimson; feathers above and below the eyes and ear-coverts grey; lores and an *imperfectly developed patch on side of throat*

black; under parts dull greenish, greyish on throat; bill bluish-grey, yellowish at base beneath; irides usually pale red. Length 11 inches; culmen [illegible]; wing 5·8; tail 4·45; tarsus 0·85.

Adult Female: Crown slate-grey streaked with blackish, showing no red.

Young Male: Above greyer than in adult; tail paler and tinged with brown; red on the head less brilliant; entire under parts grey tinged with buff, and washed on flanks with green.

Distribution: Found in most countries of Europe, especially to the east, and in Northern Asia. Does not occur in Great Britain.

Habitat: Deciduous woods.

Sub-family IYNGINÆ.

Genus IYNX.

WRYNECK.

Iynx torquilla *Linn.*

Adult: *Above brownish-grey*, beautifully pencilled and *vermiculated with blackish-brown;* centre of nape and back boldly striped with black and rufous; primaries brown, spotted at regular intervals on outer webs with pale reddish-brown; scapulars banded with black and spotted with buff; *tail* ashy-brown, wavely *barred* and vermiculated *with black;* chin and throat rich buff, regularly barred transversely with black, rest of under parts whitish, shaded with yellow on flanks and all the feathers marked with black at their tips; bill, legs and feet brown; irides pale brown. Length 6·5 to 7 inches; culmen 0·4; *wing 3·3;* tail *(of ten feathers)* 2·5; tarsus 0·75.

Young: Above duller and beneath more conspicuously marked with black.

Distribution: Summer visitant to Europe, wintering in Northern Africa, India, &c.

Habitat: Wooded localities.

Order COCCYGES.

Family ALCEDINIDÆ.

Genus ALCEDO.

KINGFISHER.

Alcedo ispida *Linn.*

Adult Male: *Top of head black*, thickly *barred with* cobalt-*blue;* a patch on either side of neck white; *centre of back*, rump and upper tail-coverts *cobalt-blue;* rest of back and wing-coverts dark green, the latter spotted with cobalt; outer webs of wing-quills and entire tail-feathers blue; lores and ear-coverts pale chestnut; cheeks blue; chin and throat white, *rest of under parts chestnut;* bill black, red at base beneath; legs and feet red; irides dark brown. Length 6·5 to 7 inches; culmen 1·4; wing 3; tail 1·3; tarsus 0·4.

Adult Female: Not quite so brightly coloured; bill orange at base beneath.

Young: Differ very little from adults, but are duller, especially on the under parts.

Distribution: Resident in the temperate parts of the Western Palearctic region.

Habitat: Proximity of rivers and streams.

Genus CERYLE.

PIED KINGFISHER.

Ceryle rudis (*Linn*).

Adult Male: Entire upper parts *black and white*, more of

former on crown and back and of latter on wings and neck; under parts pure pearly white, crossed *on chest* by *an irregular* broad *band* of *black* and another *narrower one across* the *breast;* bill, legs and feet black; irides dark brown. Length 11·5 inches; culmen 2·4; wing 5·75; tail 3·25; tarsus 0·45.

Adult Female: Similar, but has *only one black band* across chest, which is not continuous, but interrupted in the middle.

Distribution: Resident in south-eastern portions of the Western Palearctic region, occurring also throughout India and in Japan.

Habitat: Very similar to that of *Alcedo ispida*, but also frequenting the sea-coast.

Family CORACIIDÆ.

Genus CORACIAS.

EUROPEAN ROLLER.

Coracias garrula *Linn.*

Adult: Chin whitish; crown, neck and rest of *under parts* pale *greenish-blue; back* and scapulars *chestnut;* rump clear blue, shading into greenish-blue on upper tail-coverts; wing-quills black, with fine blue reflections; a broad *patch on shoulders* deep *blue;* rest of wing-coverts and bases of quills bluish-green; central rectrices dusky, outer ones greenish-blue, paler towards tips, outermost pair tipped with black; bill black; legs and feet reddish-brown; irides brown. Length 12·5 inches; culmen 1·25; wing 7·5; tail 5; tarsus 0·8.

Young: Have the whole plumage more or less suffused with brown.

Distribution: Summer visitant to the temperate parts of Europe, migrating in autumn into Central and Southern Africa. Has occurred sometimes in Great Britain.

Habitat: Sparsely wooded localities.

Family MEROPIDÆ.

Genus MEROPS.

EUROPEAN BEE-EATER.

Merops apiaster *Linn.*

Adult Male: *Crown*, nape and upper back deep *chestnut*, shading into pale green on upper tail-coverts; scapulars pale straw-colour; primaries glossy bluish-green, tipped with black; secondaries chestnut, tipped with black, innermost ones bluish; *tail-feathers bluish-green, the central pair* nearly an inch *longer than the rest;* chin and *throat* rich *yellow*, bordered below by band of black; lores and ear-coverts black; breast greenish-blue, becoming paler towards vent; bill (long and decurved) black; legs and feet reddish-brown; irides carmine. Length 10 inches; culmen 1·45; wing 5·75; outer tail-feathers 3·5; tarsus 0·45.

Adult Female: Usually a little duller, otherwise very similar.

Young: Very much paler both above and beneath with no blue or green on the forehead; central tail-feathers not elongated; band across throat brownish and indistinct.

Distribution: Summer visitant to countries bordering the Mediterranean, migrating to Southern Africa for the winter. Of casual occurrence only in Northern Europe.

Habitat: River banks, gardens, palm groves.

BLUE-CHEEKED BEE-EATER.

Merops persicus *Pall.*

Adult: *Above* bright *green*, washed here and there with blue; wings and tail slightly russet; primaries and secondaries tipped especially on inner webs with dusky; feathers at base of bill whitish; hinder part of forehead, *superciliary stripe* and some of feathers bordering throat, *blue;* broad band from base of bill to ear-coverts black; chin yellow; *throat patch*

bright *red;* rest of under parts glossy green; bill black; legs dark brown; irides crimson. Length 11 inches; culmen 1·5; wing 6·5; tail (outer feathers) 3·75, central pair 6·4; tarsus 0·5.

Young: Much darker above, many of the feathers having light margins, central tail-feathers very little longer than rest; blue on head very faint; chin buffish; throat russet; under parts generally paler, especially on abdomen.

Distribution: Summer visitant to North-eastern Africa, and South-western Asia, occurring also sometimes in Southern Europe; winters in Southern Africa.

Habitat: Similar to *M. apiaster.*

Family UPUPIDÆ.

Genus UPUPA.

HOOPOE.

Upupa epops *Linn.*

Adult Male: Head rufous, *crest* considerable, the *feathers tipped with black* and some banded with white; nape, centre of back and scapulars pale rufous; rump white; *tail black, crossed by a broad white band in the middle;* wings black, barred with white; throat and chest pale brown, with vinous tinge; lower breast and abdomen white, striped on flanks with brown; bill black, flesh-coloured at base beneath; legs and feet dark brown; irides pale brown. Length 12 inches; culmen 2·25; wing 5·8; tail 4; tarsus 0·75.

Adult Female: Similar, but black parts browner.

Young in first plumage: Are very like adults, but have considerably shorter bills, and the under parts are paler.

Distribution: Summer visitant to most of temperate portions of the Palearctic region, wintering in Central Africa and India.

Habitat: Woods, gardens, fields, &c.

Family CUCULIDÆ.

Genus CUCULUS.

CUCKOO. ✓

Cuculus canorus *Linn.*

Adult: *Above slaty-grey*, chestnut on back, primaries with broad spots of white on inner webs, especially towards bases; *tail*-feathers blackish, several being spotted along their webs with white and all *white tipped;* beneath fore parts pale slaty-grey; rest of under parts white; more or less regularly *barred with black below the chest;* bill black, yellowish at base beneath; legs, feet and irides yellow. Length 13 to 14 inches; culmen 0·8; wing 9; tail 7; tarsus 0·8.

Young in first plumage: Feathers above barred with chestnut, and white tipped; females are decidedly rufous on rump, upper tail-coverts and tail; under parts all barred. Very young birds show a conspicuous white patch on the nape.

Distribution: Summer visitant to Europe and most of Asia, migrating in autumn to Central Africa, or Southern India.

Habitat: Cultivated and wooded localities where insects abound.

Genus COCCYSTES.

GREAT SPOTTED CUCKOO. ✗

Coccystes glandarius (*Linn*).

Adult Male: *Crown feathers* long and *crested*, dark grey, streaked along the shafts with black; rest of *upper parts chiefly brown*, tinged with olive; wing-coverts, some of primaries and upper tail-coverts white tipped; tail-feathers blackish-brown, outer ones tipped with white; sides of face dark grey; *beneath creamy-white*, buffish on throat; bill dark brown, yellowish at base beneath; legs and feet slaty-grey; irides brown.

Length 16 to 17 inches; culmen 1 ; wing 8 ; tail 9·5 ; tarsus 1·3.

Adult Female: Differs from male in having the primaries decidedly marked with rufous, and with a smaller crest.

Young: Resemble adult females, but have dark brown crown and throat, breast and under parts suffused with rufous.

Distribution: Summer visitant from Southern Africa to Spain, Asia Minor, Palestine, and occasionally to South-eastern Europe. Has been recorded from Great Britain.

Habitat: Very similar to that of *Cuculus canorus*.

Order ACCIPITRES.

Family STRIGIDÆ.

Genus STRIX.

BARN-OWL. ✓

Strix flammea *Linn.*

Adult: Operculum margined with stiff, oblong feathers; *above* light *reddish-yellow*, vermiculated with grey and marked with oval white and black spots; face and *under parts white;* breast *tinged with buff;* flanks slightly *spotted with dusky;* bill yellowish-white; claws dark grey; irides bluish-black. Length 12 to 13·5 inches; culmen 1 to 1·3; wing 11; tail 4·75; tarsus 2·5.

Female: Slightly larger than male.

Young: Closely resemble adults. Very young birds are covered with white down.

Distribution: Resident in most parts of Europe, excepting in Norway, north of Sweden and of Russia and on the north-eastern shores of the Mediterranean.

Habitat: Cultivated localities; among old ruined buildings, and woods where large, decayed trees abound.

Note.—This species varies considerably in colour, according to climatic influences, varying from pale orange-buff above and pure white under parts to a ground-colour of almost uniform rufous-buff throughout.

Family BUBONIDÆ.

Genus ASIO.

LONG-EARED OWL. ✓

Asio otus (*Linn*).

Adult: *Above ochreous-buff*, closely *vermiculated and*

streaked with dark brown; wings and tail barred irregularly with shaded brown; feathers above and in front of the eyes, blackish; face otherwise dull buff; beneath buff, marked with white, striped and (some feathers) vermiculated with brown; bill black; down on legs and feet buff; irides orange; *ear-tufts very long. Length 14 inches;* culmen 1; wing 11·5; tail 5·75; tarsus 1·05.

Young: Facial disc yellower, and markings on under parts more noticeable.

Distribution: Resident in most parts of Western Palearctic Region, also in Central Asia.

Habitat: Fir woods, or small plantations. Nocturnal.

SHORT-EARED OWL. ✓

Asio accipitrinus (*Pall*).

Adult: General colour rich *buff;* on upper parts *patched and* broadly *streaked with* dark *brown;* wing and tail-feathers broadly barred with brown; *ear-tufts short, hardly apparent,* not exceeding half an inch in length; hinder part of face richly marked with black; *ring* completely *round eyes blackish;* throat and breast striped with brown; flanks also streaked, but narrowly; bill and claws almost black; irides yellow. Length 14 to 15 inches; culmen 1; wing 12; tail 5·75; tarsus 2.

Young: Resemble adults but are darker and more of a rufous-buff, with bolder brown markings; irides pale yellow.

Distribution: Occurs in most of Palearctic region, and also in the Nearctic region.

Habitat: Moors, marshes and cultivated (open) country.

Note.—This species is liable to considerable variation in tint.

Genus SYRNIUM.

TAWNY OR WOOD OWL. ✓

Syrnium aluco (*Linn*).

Adult: Feathers of *upper parts* rich *rufous-brown,* centres of feathers marked with dark brown, *outer webs of many of wing-coverts chiefly white;* wings and tail-feathers browner than back, barred with dark brown; edges of primaries silvery-white; ruff

round facial disc and forehead dark brown ; feathers surrounding bill grey ; rest of facial disc rufescent ; under parts whitish, tinged here and there with rufous and irregularly streaked and vermiculated with dark brown ; bill pale yellow ; *feet feathered ;* claws horn-colour, darker towards tips ; irides black. *Length 14 to 17 inches ;* culmen 1·2 ; wing 10 to 11 ; tail 6·5 ; tarsus 1·95.

Young in first plumage : Covered with greyish-white down and barred more or less regularly with brown ; tail-feathers white-tipped ; feet not much feathered.

Distribution : Resident in most parts of Europe except in those portions of Russia and Scandinavia north of lat. 61°, and is not found in Corsica or Sardinia.

Habitat : Woods and sheltered, cultivated country.

Note.—This species is subject to much variation in tint, some sub-arctic specimens being much greyer, whilst those from sub-tropical regions are more rufous.

URAL OWL.

Syrnium uralense (*Pall*).

Adult : Upper and under parts *whitish*, broadly *streaked with dark brown ;* upper tail-coverts brown, mottled with ashy-grey ; forehead dark brown ; wings and tail brownish-grey, barred with brown ; *face greyish*, bill yellow ; claws black ; irides dark brown. *Length 20 to 24 inches ;* culmen 1·2 ; wing 14 ; tail 11·10 (central feathers much longer than rest) ; tarsus 2·4.

Distribution : Resident in North-eastern Europe and Siberia.

Habitat : Similar to that of preceding, but frequents more open country in winter.

Note.—This species seems, like the last described, to vary considerably in tint.

LAPP OWL.

Syrnium lapponicum (*Sparrm*).

Adult : *Above ashy-brown, streaked and vermiculated with white ;* wings and tail-feathers dark ashy-brown, broadly barred

with whitish; in the latter, those bars are vermiculated with pale brown; *face* greyish-white, narrowly, but *concentrically barred with* dark *brown;* region immediately surrounding eyes and chin blackish; under parts white, entirely streaked with dusky brown; eyes greyish, barred regularly with brown; bill yellowish-horn colour; irides pale yellow. *Length 27 to 28 inches;* culmen 1·9; wing 18 to 18·75; tail 12·5 to 13·5; tarsus 2·55.

Nestling: Considerably darker throughout than adults, especially dark on head, under parts closely barred with dark brown.

Distribution: Resident in North-eastern Europe, occasionally occurring in Central Europe.

Habitat: Dense pine forests.

Genus NYCTEA.

SNOWY OWL.

Nyctea scandiaca (*Linn*).

Adult Male: Entire plumage *white*, the *tips of a few feathers* of upper parts *blackish-brown;* bill and claws black; feet covered by long feathers; irides yellow. Length 20 to 22 inches; culmen 1·25; wing 16 to 16·75; tail 9 to 9·75; tarsus 2·25.

Females: Considerably larger.

Nestling: Covered by dense sooty-brown down, and showing white patches of feathers in various parts of the body.

Immature Birds: Upper and under parts conspicuously barred, or spotted with dark brown; tail-feathers broadly barred; lower abdomen, legs and feet pure white.

Distribution: Resident in the extreme north of the Palearctic and Nearctic regions, occurring further south in winter.

Habitat: Barren fells or tundras.

Genus SURNIA.

HAWK OWL.

Surnia ulula (*Linn*).

Adult: Above dark brown, blotched, spotted and barred

with white; wings pale brown and white spotted; *tail graduated;* semi-circular band over ear-coverts, a patch on sides of neck, and region round the eyes dark brown; face silvery-white; *under parts* whitish, *narrowly* but closely *barred with brown;* bill and soles yellow; claws black; irides straw-yellow. Length 15 to 16 inches; culmen 0·9; wing 8·8 to 9; tail 7; tarsus 0·9.

Immature Birds: Generally duller than adults; throat and sides of neck tinged with buff; legs and feet less feathered, otherwise very similar.

Distribution: Inhabits northern parts of the Palearctic region, occasionally straggling further southward in winter.

Habitat: Both forest and open country. Diurnal.

Genus NYCTALA.

TENGMALM'S OWL. ✓

Nyctala tengmalmi (*Gmel*).

Adult: Above dull brown, spotted more or less conspicuously with whitish; tail-feathers crossed with four bars of white; facial disc greyish-white, in some marked with blackish; a ring round eyes, and lores black; *margin of facial disc dark brown, spotted copiously with white;* under parts white, *barred* and otherwise marked especially on sides of body *with reddish-brown*; bill yellowish, set with black bristly feathers; *feet clothed with long white feathers;* claws black; irides bright yellow. Length 8·5 to 9 inches; culmen 1; wing 6·25 to 6·75; tail 4·4; tarsus 1.

Female: Slightly larger than male.

Nestling: Entire plumage dull sooty-brown, face blackish-brown, with a spot of white over each eye; traces of white spots also on wings; abdomen and vent drabbish-brown, mottled with dark brown.

Immature Birds: Plumage chocolate-brown, darker on face; feathers at base of bill, a broad stripe above the eye and a smaller one below the eye white; wings mottled with white; tail-feathers crossed by three ill-defined whitish bars; under parts brown, mottled with white.

Distribution: Resident in the northern portions of the Palearctic region, occurring also in Central Europe.

Habitat: Thick forest regions. Nocturnal.

Genus Scops.

SCOPS-EARED OWL.

Scops giu (*Scop*).

Adult: Above *greyish*-brown, in places washed with buffish or chestnut, *streaked* with black *and vermiculated with dark brown;* tail-feathers barred with black or dark brown and pale brown; *no operculum over the ear;* beneath grey, whitish on chin, otherwise tinged with orange buff, finely vermiculated with brown and conspicuously streaked with dark brown; bill black; *feet bare;* claws pale at bases with black tips; irides bright yellow. *Length 7 to 7·5 inches;* culmen 0·7: wing 5·75 to 6; tail 2·75; tarsus 1.

Young: Appear more rufous than adults, otherwise are very similar.

Distribution: Inhabits the temperate portions of Europe, Western Asia and Northern Africa; of casual occurrence only in the British Isles.

Habitat: Groves, gardens, densely wooded ravines, &c.

Genus Bubo.

EAGLE-OWL.

Bubo ignavus *Forst.*

Adult: *Above* yellowish *rufous-brown*, becoming more rufous towards tail, and *blotched and mottled* throughout *with dark brown;* feathers of crown black with rufous margins; *elongated ear tufts very large*, wing-quills blackish; rectrices pale rufous, both being regularly barred; facial disc incomplete; ears not furnished with an operculum; feathers at base of bill and chin white, the former tipped with white; under parts ferruginous-buff; centres of feathers more or less broadly streaked, and vermiculated with dark brown; bill and claws blackish; irides orange. *Length 24 to 26 inches;* culmen 1·5; wing 16·5 to 18·5; tail 11·5; tarsus 2·75.

Female: Considerably larger than the male.

Nestling: "In the older nestlings described by Linnæus, the bill was black; irides saffron-yellow; pupil bluish-black;

the general plumage soft ; the wings dark, with reddish-brown spots ; feathers of the breast brick-red, with a dark indented longitudinal stripe ; wing and tail-quills still short, blackish with roundish red spots ; feet reddish-brown " (Newton).

Distribution : Resident over most of the Palearctic region : a scarce visitor to Great Britain.

Habitat : Forests, deep ravines or old buildings. Nocturnal.

Genus GLAUCIDIUM.

PIGMY OWL.

Glaucidium passerinum (*Linn*).

Adult : *Above umber-brown*, tinged with grey and spotted with fulvous ; *crown* and wings *copiously spotted* and tail barred *with white ;* face whitish, barred or mottled with dark brown : sides of throat and chest marked with brown ; centre of throat white ; rest of under parts white, the flanks streaked with brown ; bill and irides yellow ; *feet closely feathered ;* claws blackish. *Length 6·25 to 6·75 inches ;* culmen 0·4 ; wing 4 ; tail 2·25 to 2·75 ; tarsus 0·5.

Immature Birds : Generally browner than adults, under parts more boldly striped, whilst the upper parts are less spotted, and duller.

Distribution : Resident in Central and North-eastern Europe, and Northern Asia.

Habitat : Forest regions. Nocturnal.

Genus ATHENE.

LITTLE OWL.

Athene noctua (*Scop*).

Adult : Above greyish-brown, inclining to rufous on tail, and spotted profusely with white, the crown spots smaller than the rest ; back of neck closely mottled with white, forming a sort of white collar ; tail barred with yellowish-white ; cheeks whitish, streaked with dusky ; *under parts* white ; chin un-

marked; chest and flanks *streaked boldly with brown;* bill pale yellow; *toes covered with bristles, but not feathered;* claws black; irides yellow. *Length about 8·5 inches;* culmen 0·6; wing 6 to 6·5; tail 3·2; tarsus 1·25.

Young: Are more rufous than adults.

Distribution: Resident in Europe south of Scandinavia. Of casual occurrence only in the British Isles.

Habitat: Woods, ruins, gardens, &c. Nocturnal.

Note.—This owl, like many others, is subject to considerable variation in size, as well as in general tint. In Northern Africa, a paler and more rufous form occurs, which has been described by many authors as a distinct species, under the name of *Athene glaux*. Specimens identical with this form appear to occur in Southern Europe, as well as intermediate forms.

Family VULTURIDÆ

Genus Gyps.

GRIFFON VULTURE.

Gyps fulvus (*Gmel*).

Adult: *Head and neck covered with white hairy down; neck-ruff white;* back, rump and scapulars pale buffish-brown; *wings and tail dark brown;* some of wing-coverts have dark centres; beneath reddish-brown, tinged with yellow; bill at tip pale slate-colour; cere nearly black; legs and feet leaden-grey; claws black; irides reddish-orange. Length 42 to 48 inches; culmen 3; wing 27 to 30; tail 14·9 to 15; tarsus 4.

Immature Birds: "Have the head and neck dirty white, varied with brown, and the rest of the plumage much lighter than in the adult, with white and grey markings" (Shelley).

Distribution: Resident in Southern Europe, Northern Africa and in parts of Central Asia; of casual occurrence in Northern Europe.

Habitat: Mountainous regions, especially frequenting precipitous cliffs.

Genus VULTUR.

BLACK OR CINEREOUS VULTURE.

Vultur monachus *Linn.*

Adult: Downy feathers on *crown, sides of face and throat black;* rest of neck and throat bare of feathers; *plumage* of both upper and under parts *brownish-black;* base of bill and space between rami of lower mandible flesh-colour; anterior portion of both mandibles black; legs and feet flesh-colour: irides brown. Length 42 inches; culmen 3·3; wing 28 to 30: tarsus 4.

Young: Similar, but much browner.

Distribution: Inhabits Southern Europe, of rare occurrence northward. Abundant in Spain. Found also in Northern Africa and in India.

Habitat: Wooded districts.

Genus NEOPHRON.

EGYPTIAN VULTURE.

Neophron percnopterus (*Linn*).

Adult: Bare parts of head and neck yellowish; *plumage* of upper and under parts *chiefly white, tinged with buff; wings black*, the outer webs of many of the feathers washed with white: base of bill yellow, the rest dusky; legs and feet flesh-colour; irides crimson. Length 26 to 27 inches; culmen 3; *wing 18·5 to 19;* tail 10; tarsus 3·4.

Immature Birds: Brown both above and beneath, darker on the neck, ruff and elsewhere marked with creamy-buff; bill duller than in adults; irides brown.

Distribution: Inhabits those European countries bordering the Mediterranean, also Africa and South-western Asia; of casual occurrence in Northern Europe.

Habitat: Dry, sandy regions; high cliffs, near human habitations: gregarious.

Genus GYPÆTUS.

BEARDED VULTURE.

Gypætus barbatus (*Linn*).

Adult: Crown whitish, hinder crown and elongated *lanceolate neck-feathers tawny-buff;* rest of upper parts chiefly black, the feathers mostly narrowly streaked with white; scapulars washed with ochreous-brown, wings and tail-feathers blackish-brown with white shafts; elongated chin feathers, *lores*, *bristles covering nostrils*, a broad line above and another below the eye, *black;* general colour of under parts rich tawny-brown; bill deep horn-blue, darker at tip; feet leaden-grey; claws pale horn-colour; irides pale orange. *Length about 42 inches;* culmen 3·7; wing 30; tail 20; tarsus 4.

Young assuming first plumage: Feathers both above and beneath deep brown, with whitish tips to many of back feathers, wing-coverts and breast feathers; downy parts smoky-brown.

Young in Spring: Head and neck deep blackish-brown; back brown (dark or light) mixed with buff, especially on fore parts and on wing-coverts; wings dark brown; secondaries paler and buffish at base of outer web; tail dark brown; under parts dull buff, washed with rufous on fore parts; irides hazel-brown; bill and legs very much as in adult.

Distribution: Inhabits the higher ranges of the Pyrenees, Alps, Atlas and North-western Himalayas.

Habitat: High mountainous regions, precipitous cliffs.

Family FALCONIDÆ.

Genus CIRCUS.

MARSH HARRIER.

Circus æruginosus (*Linn*).

Adult: *Head buff*, streaked (especially behind) with brown; back and scapulars dark brown, the latter obscurely shaded with paler brown; wings dark brown, except *secondaries*, which

are *washed with grey on outer webs;* tail-feathers grey; throat and chest buff, boldly marked on lower part of latter with dark brown; rest of under parts dark brown, washed with ferruginous; bill bluish-slate colour; legs and cere yellow; irides pale yellowish. Length 19 to 23 inches; culmen 1·3; wing 15 to 16; tail 9 to 10·5; *tarsus 3·3 to 3·45.* Female larger than the male.

Young in first plumage: Almost uniform chocolate-brown, tinged, especially on upper tail-coverts and under parts, with paler brown. The yellow on head, neck and throat is assumed during the second year.

Distribution: Resident throughout most of Europe, except in the extreme north, also found across Asia to Japan and in many parts of Africa.

Habitat: Open, marshy country, especially where waterfowl abound.

Note.—This species is subject to much variation in colour.

HEN HARRIER.

Circus cyaneus (*Linn*).

Adult Male: *Upper parts ash-grey*, marked on nape with brown; wing quills blackish; secondaries chiefly white on inner webs; upper tail-coverts pure white; *throat and chest grey;* rest of under parts white; bill and claws black; cere, legs and irides yellow. Length 18 inches; culmen 1·15; wing 13·5; tail 9; tarsus 2·7.

Adult Female: Somewhat larger than male; head and neck buff, the latter tinged with rufous and both heavily streaked with brown, especially on crown; neck-ruff distinct; general appearance of upper parts deep umber-brown; some of wing-coverts broadly margined with rufous-buff; upper tail-coverts white; tail-feathers dark brown, central pair broadly barred transversely with greyish-brown, and outer ones with rufous-buff, all rectrices pale tipped; under parts buff, streaked chiefly on throat with brown; irides yellowish-brown.

Young: Resemble adult female, but are more rufous, especially on the tail-feathers and under parts, and the stripes on breast are broader and of a reddish-brown. Young males are rather less rufous than young females.

Distribution: Found throughout Europe, most of Asia and parts of Northern Africa.

Habitat: Open country, moors or marshes.

MONTAGU'S HARRIER.

Circus cineraceus (*Mont*).

Adult Male: Head, neck, centre of back, and scapulars ashy-grey; wing-coverts, secondaries and tail paler grey; secondaries marked with three dusky bars on inner webs; *outer web of fifth primary entire (not notched);* outer tail-feathers barred with chestnut and whitish; upper tail-coverts white; chest ashy-grey; rest of under parts white, *breast-feathers having a narrow central streak of chestnut;* bill black; legs, feet, cere and irides yellow. Length 17 to 18 inches; culmen 1; wing 13·75; tail 9·25; tarsus 2·35.

Adult Female: Above dark brown, marked with pale rufous; wings darker brown, barred with greyish rufous-brown; tail-feathers very much as in female of *C. cyaneus;* under parts pale rufous buff, streaked more or less with deep chestnut-brown; slightly larger than the male.

Young: More uniform chocolate-brown above than adult female; crown and wing-coverts margined with pale rufous; outer tail-feathers rufescent-buff, barred with dark brown; upper tail-coverts white, with narrow shaft-lines of brown; some of anterior ones washed with tawny; throat pale ochreous; facial ruff and rest of under parts pale rufous-buff, streaked on chest and flanks with reddish-brown.

Distribution: Occurs throughout most parts of Europe, Asia and Africa, but is a summer visitant only to Northern Europe, not ranging further than about lat. 60° N.

Habitat: Similar to that of *C. cyaneus.*

PALLID HARRIER.

Circus swainsoni (*Smith*).

Adult Male: Closely resembles male *C. cyaneus*, but has the *web of the fifth primary unnotched*, is *paler grey above*, has

the white *upper tail-coverts barred with grey*, and the throat only tinged with grey. Length 17 inches; culmen 1·2; wing 13·75; tail 8·75; tarsus 2·8.

Adult Female: Forehead and superciliary stripe buff; upper parts generally dark brown, mixed with white on nape, and most of feathers margined with paler brown; upper tail-coverts white, barred with brown; primaries and secondaries buff on inner webs, and barred, more or less distinctly, with dark brown; under parts and a line beneath the eye whitish or tinged with cream-colour; chest copiously and broadly streaked with dark brown; abdomen and flanks also streaked but more narrowly, and with a more rufous-brown; irides hazel-brown; somewhat superior in size to the male.

Young: Above brown, the feathers chiefly bordered with rufous-brown; cheeks dark brown; facial-ruff and under parts pale ferruginous-brown; flanks streaked sparingly with reddish-brown; upper tail-coverts white; otherwise very like adult female.

Distribution: Found in Southern Europe, Asia and most of Africa.

Habitat: Open country; cultivated land, &c.

Genus BUTEO.

COMMON BUZZARD.

Buteo vulgaris *Leach.*

Adult: Head pale brown, marked with dark brown; rest of upper parts dark brown with pale margins to the feathers, except *tail*-feathers, which are pale brown, or whitish, *crossed by 12 or 13 dark brown shaded bars;* primaries nearly black; basal half of inner webs chiefly white; under parts white, or creamy-white, mottled and spotted, chiefly on breast and sides of body, with brown; chin and under tail-coverts unspotted, or almost so; bill bluish-horn colour; cere and legs yellow; irides brown. Length 20 to 23 inches; culmen 1·4; wing 15 to 16·5; tail 9; *tarsus 3·1.*

Immature Birds: Similar to adults, but of a paler brown above, the feathers being margined with very light brown; many white feathers mixed with the brown on nape; beneath

brown, mixed with white or feathers margined with whitish; throat brown, streaked with white; quills blackish-brown, the tail-feathers tipped with rufous, and only crossed by ten dark bars.

Distribution: Found throughout Europe, except in the extreme north, and in Western Asia.

Habitat: Both open country and in forests. Precipitous cliffs.

Note.—This species is subject to great variation in colour, and also to some extent in size. Many old males have very dark brown breasts, mottled or spotted with white or yellowish.

AFRICAN BUZZARD.

Buteo desertorum (*Daud*).

Adult: *In general appearance more rufous throughout than B. vulgaris;* above shaded brown, most of feathers bordered with pale brown, and many, especially on back and rump, with rufous-brown; feathers of crown, and sides of face streaked with dark brown; in some old males the fore part of crown is whitish, and very sparingly marked with brown; primaries nearly black, bordered externally with dull ashy-grey; central tail-feathers reddish-brown, outer rectrices greyish-brown, and all barred with darker brown; under surface of rectrices yellowish-white, faintly barred with dusky; under parts creamy-white or pale rufous, boldly blotched (on flanks almost barred) with rusty-brown; bill and claws bluish-black; legs and cere yellow; irides brownish-yellow. Length 19 inches; culmen 1·25; wing 13·5 to 15; tail 8·2; tarsus 2·7.

Young: Very nearly resemble some dark forms of *B. vulgaris*, but are smaller and more rufous above, also the markings on flanks; under parts generally whiter and less marked than in adults.

Distribution: Inhabits South-eastern Europe, and most parts of Africa and India.

Habitat: Very similar to *B. vulgaris*.

Note.—This species, like the last, is most variable in tint, and occasionally the two are scarcely to be distinguished apart.

LONG-LEGGED BUZZARD.

Buteo ferox (*Gmel*).

Adult: Crown, nape, throat and chest creamy-buff, washed with rufous, and streaked more or less broadly with dark brown; feathers on nape very open, showing white bases; feathers of upper parts generally dark brown, margined with rufous-brown; primaries almost black, washed on outer webs with grey, and marked on inner webs with white; *tail-feathers creamy-white or pale rufous-brown*, more or less distinctly barred with brown; chin whitish; abdomen and flanks chestnut, more or less mingled on former with buff or pale rufous feathers; bill and claws blackish; cere and legs yellow; irides tawny-brown. *Length 22 to 25 inches;* culmen 1·25; wing 16·75 to 18·75; tail 9·5; *tarsus 3·5 to 4.*

Young: Darker above than adults; tail-feathers ashy-brown, fulvous tipped and shaded with ashy-grey; abdomen rufescent-buff, marked with brown.

Distribution: Found in South-eastern Europe, Western-central Asia and North-eastern Africa.

Habitat: More open localities than *B. vulgaris* as a rule, otherwise similar.

Note.—This species exhibits considerable variation in colour, some being much paler, and others again much darker, than the description given above. Very old birds appear to become almost entirely chestnut beneath.

Genus ARCHIBUTEO.

ROUGH-LEGGED BUZZARD.

Archibuteo lagopus (*Gmel*).

Adult: Crown and neck creamy-white, copiously streaked with dark brown; upper tail-coverts and basal half of tail-feathers white (the former blotched with brown); *tail*-feathers white, tinged with greyish towards tip, and *crossed by four or five broad brown bars;* rest of upper parts shaded brown; some of feathers of interscapular region margined with rufous-buff; primaries blackish-brown, the outer ones tinged with grey on outer

webs, and all having white bases; forehead, ear-coverts, and chin buffish-white, or white slightly streaked with brown; beneath yellowish-white; *sides* of throat, chest, and *abdomen heavily blotched* or streaked *with brown; legs* barred with brown, and *feathered to the toes;* bill brownish-black, paler at base; cere and feet yellow; claws black; irides brown. Length 19 to 23 inches; culmen 1·2; wing 16 to 17·75; tail 9 to 10; tarsus 2·5 to 2·75.

Young: Are considerably darker and duller above; tail-feathers with terminal two-thirds brown, tipped with dirty-whitish; abdomen almost uniform chocolate-brown; legs mottled with brown, not barred.

Distribution: Inhabits the northern portions of Europe and Asia; an irregular visitant to the British Islands, chiefly in autumn and winter.

Habitat: More open localities than *Buteo vulgaris:* otherwise very similar. Partial to precipitous cliffs.

Note.—Like the Buzzards, this species exhibits very considerable variation in plumage and size.

Genus AQUILA.

BOOTED EAGLE.

Aquila pennata (*Gmel*).

Adult: Top of *head* and nape pale *sandy-brown, streaked with dark brown;* forehead more or less white; rest of upper parts dark brown; most of feathers being margined and tipped with very pale brown; scapulars paler than back feathers; wing and tail-quills blackish-brown, the latter tipped with creamy-white; sides of head pale brown; ear-coverts darker brown; under parts white (or in some pale brown) streaked with dark brown; bill bluish-horn, blacker at tip; cere and feet yellow; claws black; irides pale hazel. *Length 18 to 21 inches;* culmen 1·6; wing 14 to 16·5; tail 8 to 10; tarsus 2·5 to 2·8.

Young Male: Wing and tail-feathers more or less broadly tipped with white or whitish; under parts dark reddish-brown, narrowly streaked with darker brown; under wing-coverts dark brown.

Distribution: Inhabits Southern Europe and Africa, occasionally straggling into Central Europe.

Habitat: Forest regions.

SPOTTED EAGLE.

Aquila clanga *Pall.*

Adult: Plumage very dark brown, somewhat glossy above; primaries nearly black; a few feathers about upper and under tail-coverts white; bill bluish-black; nostrils round; cere and feet bright yellow; irides brown. Length 24 to 28 inches; culmen 2·4; wing 19 to 20; tail 11·8; tarsus 4 to 4·45.

Immature Birds: Copiously *spotted* on hinder parts *above with buffish;* secondaries and tail-feathers broadly tipped with greyish; upper tail-coverts chiefly brownish-buff; *under parts streaked with tawny-brown;* tarsi dark brown, marked with white; under tail-coverts buffish.

Distribution: Inhabits Southern Europe and Eastern Russia, ranging across Turkestan and Central Asia, occurs also in Northern Africa.

Habitat: Secluded forest regions; often hunting in more open country.

LESSER SPOTTED EAGLE.

Aquila nævia (*Gmel*).

Adult: Plumage dark brown; feathers of head and nape bordered with pale brown; rump marked with pale brown and white; quills and tail very dark brown, the latter tipped with pale brown, slightly barred with blackish; under tail-coverts buffish; bill dark horn-colour; cere and feet yellow; irides yellowish-brown. Length 24 to 28 inches; culmen 1·75; wing 18 to 19·25; tail 9·25; tarsus 3·45.

Young: Plumage generally more of a chocolate-brown; crown streaked and *nape with large patch of rufous-buff*; feathers of back and wing-coverts spotted with buffish in centre; tips of secondaries and tail-feathers greyish; under parts streaked in centres of feathers with buffish.

Distribution: Resident in Pomerania, ranging southward through Russia, and occurring on migration in Egypt and Northern Africa.

Habitat: Similar to that of *A. clanga*.

STEPPE EAGLE.

Aquila nipalensis *Hodgs.*

Adult: Prevailing colour pale brown, both above and beneath; some of back feathers and crown darker; wing-coverts more or less broadly tipped with pale fulvous; wing and tail-quills blackish-brown; the latter pale tipped and crossed by ashy-grey transverse bars; upper tail-coverts white, or marked with brown; abdomen paler brown than rest of under parts, and slightly shaded with rufous; bill horn-black; nostrils oblong and vertical; cere and feet deep yellow; irides brown. Length 30 to 31 inches; culmen 2·7; wing 23; tail 11.75; tarsus 3·8.

Young: In general appearance dark earth-brown above and beneath, paler on chin; upper and under tail-coverts pale ochreous-fawn colour; wings and wing-coverts more or less broadly tipped with buff; tail barred with ashy-grey and broadly tipped with shaded reddish-buff; under wing-coverts dark brown, marked with rufescent-buff. In some the nape and back feathers are somewhat speckled with buff at the extreme tips.

Distribution: Inhabits South-eastern Europe, Western-central Asia and India.

Habitat: Wild open country. High steppe regions.

WHITE-SHOULDERED OR SPANISH IMPERIAL EAGLE.

Aquila adalberti *Brehm.*

Adult: Centre of crown, back and under parts dark brown; nape and sides of face sandy-brown; a large *patch on either carpal joint and several feathers on the back between the shoulders pure white;* tail dark brown, marbled with grey; a few

white feathers mixed with the brown ones on breast and tarsi; bill dark horn-blue; cere and feet yellow; claws black; irides light brownish-grey. Length 32 to 33 inches; culmen 3·1; wing 24·4; tail 13·75; tarsus 4.

Young Male: "Head, neck, back, scapulars and wing-coverts light sandy-brown, here and there intermixed with darker brown, and dull rufous feathers; rump and upper tail-coverts pale creamy-rufous; tail sandy-grey, edged and tipped with pale rufous-brown; primaries dark brown; secondaries dull brown, edged and tipped with creamy-yellow; under parts generally dull uniform sandy-brown, tinged with rufous; under tail and wing-coverts pale creamy-rufous" (Dresser).

Distribution: Resident in Spain, Portugal and North-western Africa.

Habitat: Wooded plains.

IMPERIAL EAGLE.

Aquila heliaca *Savigny*.

Adult: Crown, sides of head and nape creamy-rufous, marked conspicuously on centre of crown with brown; rest of plumage darker brown than in *A. adalberti*, showing no white whatever on shoulders, but *only a few white feathers on scapulars;* abdomen strongly tinged with rufous; tail and soft parts much as in *A. adalberti*, the former tipped with buff. Length 30 to 31 inches; culmen 3; wing 22 to 23; tail 11·65; tarsus 4.

Young: Feathers of both upper and under parts with pale yellowish-brown centres, and secondaries and rectrices with broad buffish tips; none of scapular-feathers white; chest distinctly streaked with fulvous.

Distribution: Inhabits Southern Europe (except the Iberian peninsula) Northern Africa, Persia, India and China.

Habitat: Bare, open country or thin, low jungle.

GOLDEN EAGLE.

Aquila chrysaëtus (*Linn*).

Adult: Crown and nape rich rufous-brown; back and most

of under parts dark brown, darker on chin and throat and paler on abdomen and tarsi; quills blackish-brown; tail-feathers shaded brown, darker at tips and mottled with dark grey; thighs uniform dark brown; bill bluish horn-colour, darker at tip; cere and feet yellow; claws black; irides hazel-brown. Length 30 to 36 inches; culmen 2·75; wing 23·5 to 24·5; tail 13 to 13·5; tarsus 4·25. Female slightly larger than the male.

Immature Birds: Head and neck more uniform in colour with the back; the tail white at the base; under parts show more white than adults, and the tarsi are dull white, somewhat mottled with brown.

Distribution: Inhabits most of the Palearctic and Nearctic regions.

Habitat: Mountainous regions, high moors, &c.

BONELLI'S EAGLE.

Aquila fasciata *Vieill.*

Adult: Above deep brown, most of feathers margined with lighter brown, especially on head and neck, and *most of those of fore parts white at bases;* quills blackish-brown, mottled with white; inner webs barred with brown; tail-feathers brown, washed with greyish, and obscurely barred with dusky brown, paler at tips; under parts white, or tinged with pale rufous-buff, and narrowly streaked, pretty uniformly, with blackish; bill dark horn-colour, paler at base; cere and feet yellow; irides orange-brown. Length 24 to 28 inches; culmen 1·75 to 2·0; wing 18·5 to 21; tail 11 to 11·6; *tarsus 3·5 to 4·3.*

Young: Very similar to adults, but under parts are rufous-brown or (on fore parts) almost foxy-red, and closely streaked with deep brown.

Distribution: Inhabits Southern Europe, Northern Africa, and ranges eastward into India.

Habitat: Wooded regions near to water, breeding in cliffs.

Genus HALIAËTUS.

WHITE-TAILED OR SEA-EAGLE.

Haliaëtus albicilla (*Linn*).

Adult: Above brown; fore parts exceedingly pale (almost white in very old birds); *tail white;* under parts deep brown; bill, cere, feet, and irides yellow; claws blackish. Length 28 to 30 inches; *culmen 3·6;* wing 24 to 26; tail 11·5; tarsus 4·2. All these dimensions in adult females are somewhat larger.

Immature Birds: Plumage both above and beneath more uniform dark brown than in adults; tail dark brown or whitish mottled with brown; bill black; cere and feet yellowish or yellowish-brown; irides dark brown. Fully as large as adults.

Distribution: Inhabits the Palearctic region, occurring in Southern Europe and in Northern Africa chiefly on migration.

Habitat: Sea cliffs, inland lakes or high precipices not far away from water.

PALLAS'S SEA-EAGLE.

Haliaëtus leucoryphus *Pall.*

Adult: *Fore parts* pale shaded *rufescent-brown*, palest on chin and upper part of throat; back and wings deep brown, deeper on the latter; *tail white, broadly banded with black at the tip;* beneath shaded reddish-brown; bill dark horn; cere pale green; legs and feet whitish; irides pale yellow. Length 32 inches; culmen 2·5; wing 22; tail 11·7; tarsus 3·85. Female similar but superior in size.

Young: Upper parts dark brown; the dorsal feathers darker at the base; wing-coverts lighter, the median coverts with light brown margins, the larger ones tipped with pale brown; quills blackish, externally washed with ashy; tail dark brown, with an ashy shade; upper tail-coverts margined with pale brown; head and neck dark fulvous-brown, streaked with sandy-brown; rest of the under parts rather lighter fulvous-brown, the feathers on the breast tipped and margined with whity-brown; legs pale lemon-yellow (Dresser).

Distribution: Inhabits most parts of India and Central Asia, straggling into South-eastern Russia, and Asia Minor.

Habitat: Wooded country, generally not far from water.

Genus CIRCAËTUS.

SHORT-TOED OR SERPENT-EAGLE.

Circaëtus gallicus (*Gmel*).

Adult: Above ashy-brown, with a faint purplish gloss on back; some of the feathers with paler margins; head very broad, usually paler than the rest of upper parts; region round base of bill whitish; superciliary streak of black, bristly feathers; wing-quills black or deep brown, their inner webs marked with white; wing-coverts pale tipped; tail chocolate-brown, crossed by three deep blackish bands; *beneath white*: the throat streaked with brown, and showing distinct black shafts to the feathers; *chest and flanks spotted or barred* with pale brown; bill bluish-black; cere, legs, feet and irides yellow. *Length 26 to 28 inches;* culmen 2; wing 20·5 to 21·5; tail 12·5; *tarsus (bare) 3·5 to 4.*

Young: Above dull brown; feathers on nape conspicuously white at base; most of back feathers and wing-coverts edged with pale brown; wings and tail much as in adult, but the latter tipped with white and its under surface whitish; feathers of throat and chest pale dirty brown, with white bases and black median shaft lines; rest of under parts more boldly spotted than in adults.

Distribution: Resident in Central and Southern Europe, Northern Africa and in many parts of Asia.

Habitat: Thick woods or damp jungle.

Genus ASTUR.

GOSHAWK.

Astur palumbarius (*Linn*).

Adult: General colour of upper parts shaded earthy-brown, darker on *crown*, which is *bordered*, especially on nape, *with*

white, mottled with blackish ; wings and tail dark greyish-brown, the latter barred with darker brown ; *under parts* white, *closely barred with blackish-brown*, especially on fore parts, where many of the feathers have also median streaks of blackish ; bill pale horn-colour ; cere, legs and feet yellow ; irides orange. *Length 19 to 23 inches ;* culmen 1·3 ; wing 13 to 14·5 ; tail 9·5 to 11 ; tarsus 2·75 to 3.

Young: White parts of head tinged with ferruginous ; most of back feathers tipped with buffish ; tail showing five broad bars ; under parts greyish or pale buff, each feather having a central, longitudinal, drop-shaped brown mark ; legs and feet yellowish-brown.

Distribution : Ranges over the whole of the Palearctic region. Of rare occurrence in Great Britain.

Habitat: Forest and open country, chiefly the former.

Genus ACCIPITER.

SPARROW-HAWK.

Accipiter nisus (*Linn*).

Adult Male: *Above* brownish *ashy-grey ;* feathers on nape white at base, some of white showing above ; tail and under surface of wings barred with brown ; cheeks and *under parts* dull white or washed with ferruginous, *barred* (especially on hinder parts) *with* darker *rufous* or rufous-brown ; bill bluish-horn ; cere, legs and feet yellow ; irides orange. *Length about 12 inches ;* culmen 0·65 ; wing 7.5 to 7.9 ; tail 6 ; tarsus 2.

Adult Female : Above greyish-brown, darker on head and neck ; superciliary region streaked with white ; a large amount of white showing on hind neck : ear-coverts and interscapular feathers edged with rufous ; some of wing-coverts and innermost secondaries white in centre ; primaries blotched with white on inner webs ; tail-feathers crossed by five broad dusky bars, and more or less conspicuously pale or even white tipped ; *beneath white ;* chin and throat finely streaked with brown ; breast feathers *closely barred or marked with triangular blotches of brown ;* rest of under parts regularly barred, more narrowly

so towards the vent; bill bluish-horn, cere, legs, feet and irides yellow. *Length about 14 inches*; culmen 0.75; wing 9 to 9·75; tail 7·25 to 7·5; tarsus 2.

Young Males: Resemble old females, but the back feathers are edged with rufous-brown, and the upper tail-coverts washed with the same; under parts are more irregularly marked.

Young Females: Differ from the foregoing chiefly in size and in being less marked with rufous-brown on the back.

Distribution: Resident throughout the Palearctic region.

Habitat: Woodland regions, but often also to be seen hunting for its prey in the more open country in the vicinity of woods.

LEVANT SPARROW-HAWK.

Accipiter brevipes (*Severtz*).

Adult Male: Above shaded ashy-grey; bases of secondaries white, washed with grey externally; central and outermost tail-feathers unbarred; thighs very pale and faintly barred with dull rufous, *toes shorter*, otherwise very like adult male of *A. nisus*; irides deep yellow. Length 13·3 inches; culmen 0·75; wing 8·95; tail 6; *tarsus 1·75*.

Adult Female: Above brown, the white bases to the scapulars and innermost secondaries well concealed; lores whitish; cheeks, ear-coverts and sides of neck clearer brown, wing-coverts slightly tinged with grey; quills blackish-brown, greyish at tip, and white at base of inner webs, all wing-quills barred with blackish; central tail-feathers inconspicuously barred, otherwise much resembles *A. nisus*. Larger than the male.

Young Male: Inner webs of secondaries white; tail-feathers greyer than in young *A. nisus*, very faintly barred, and under parts much more boldly blotched or barred with rich brown.

Distribution: Resident in Southern Russia, the Levant, Asia Minor, Syria and Palestine.

Genus MILVUS.

COMMON KITE.

Milvus ictinus *Savigny.*

Adult Male: *Head* pale *greyish*, narrowly streaked with brown; quills blackish; *tail forked*, the feathers *rufous-brown*; rest of under parts rufous, the feathers all having dark brown centres; chin and throat greyish, streaked with dusky, rest of under parts rich rufescent-brown, streaked longitudinally with dark brown; bill horn-colour; cere, legs, feet and irides yellow. *Length 24 to 26 inches;* culmen 1·5 to 1·8; wing 20·5; tail 14·5; tarsus 2·25.

Adult Female: Closely resembles the male, but is perhaps a trifle greyer about the head, and more rufous beneath, also somewhat superior in size.

Young: Head rufous-brown streaked with darker brown, and mottled with white; otherwise very similar to adults.

Distribution: Occurs in temperate Europe and Northern Africa, resident in parts of Southern Europe.

Habitat: Well wooded and watered regions, often in the vicinity of villages.

BLACK KITE.

Milvus migrans (*Bodd*).

Adult Male: Head and neck whitish, closely streaked with brown; *back and tail*-feathers dark earthy *brown;* wing-quills blackish; coverts pale margined; *beneath dull reddish-brown*, streaked with dark brown; *bill black;* cere, legs, and feet yellow; irides pale yellow. Length 22 to 23 inches; culmen 1·3; wing 17 to 18·5; tail 10·5 to 10·75; tarsus 1·75 to 2.

Young: Head browner than in adults; back-feathers and wing-coverts margined or tipped with yellowish-white, tail with brown bars, and whitish tipped; under parts reddish-brown, copiously streaked with buffish.

Distribution: A summer visitant to Europe south of the Baltic. Of doubtful occurrence in Great Britain. Occurs throughout Africa and in Western Asia.

Habitat: Like the preceding species, selects wooded regions, also more open country.

Genus ELANUS.

BLACK-WINGED KITE.

Elanus coeruleus (*Desf*).

Adult: *Upper parts*, including central tail-feathers, *ashy-grey*; forehead, superciliary stripe, outer tail-feathers, and *under parts white*; innermost secondaries chiefly white on inner webs; *smaller wing-coverts black*; chest slightly tinged with grey; bill very dark horn; cere, legs and feet yellow; irides crimson. *Length 11 to 13 inches*; culmen 0·75; wing 11 to 12; tail 4·75 to 5·5; tarsus 1·15.

Nestling: Head, back and scapulars dark brown, the latter conspicuously pale tipped; some of wing-coverts marked with rufous-brown, and all tipped with white; primaries and tail-feathers tipped with white; irides dark brown.

Young (Autumn): Above ashy-brown, the feathers tipped with creamy-white; wing-coverts black, indistinctly tipped with white; forehead and superciliary stripe white, streaked with yellowish-brown; sides of breast washed with yellowish-brown; irides light brown.

Distribution: Inhabits the whole of Africa, ranging eastward into India. Of rare occurrence in Southern Europe.

Habitat: Well wooded localities, avoiding bare plains.

Genus PERNIS.

HONEY-BUZZARD.

Pernis apivorus (*Linn*).

Adult Male: *Crown* and cheeks *ashy-grey*; rest of upper parts earthy-brown, tinged with grey; wing-quills barred with blackish; tail-feathers crossed by three or four conspicuous bars of dark brown at irregular intervals; *beneath white*, more or less *blotched* or broadly barred *with dark brown*; bill blackish, except at base, where the cere is yellow; legs, feet and irides yellow. *Length 23 inches*; culmen 1·25; wing 16·25; tail 10·25; tarsus 1·75.

Adult Females are larger, and appear to have browner heads, and the under parts more marked with brown.

Young: Crown and neck feathers white, more or less broadly tipped with brown; rest of upper parts dark brown, most of the feathers having pale margins, and wing-quills tipped with whitish; under parts in some only streaked with brown, in others almost uniform chocolate-brown, whilst intermediate specimens, with broad dark brown blotches on fore parts, and bars on the hinder parts, appear most commonly.

Distribution: Inhabits the Palearctic and Ethiopian regions; does not however occur in the extreme north of Europe, and is a migrant only to the Mediterranean shores.

Habitat: Both woodland districts and open country.

Genus FALCO.

GREENLAND FALCON.

Falco candicans *Gmel.*

Very Old Male: Above *white; feathers on back and wing-coverts with* large *spots of blackish* near the tips; primaries subterminally barred with black more or less broadly; shafts of upper tail-coverts and rectrices in some birds blackish; under parts pure white, or slightly marked on flanks; *bill yellowish*, bluish towards tip; legs and feet dull yellow; irides dark brown. Length 19 to 21 inches; culmen 1·3; wing 14 to 15; tail 8·2; tarsus 2·5 to 2·75.

Younger Male: Similar to above, but differs in being streaked on head with blackish, and having broad bars of the same across the tail.

Adult Females: Resemble the males, but are considerably larger, the wing of the former usually measuring 16 to 17 inches.

Young: Differ from adults in having the upper markings attenuated into drop-shaped markings or streaks; indications of tail-bars imperfect.

Distribution: Probably resident throughout most of the Circumpolar regions, occuring further south casually.

Habitat: Wild open country.

JER-FALCON.

Falco gyrfalco *Linn.*

Adult Male: *Above leaden-grey*, paler and bluer towards the tail, *barred with slaty-grey*, and margins of most feathers whitish; forehead whitish; crown, sides of head and *distinct moustache* mottled with *blackish-grey;* quills dark brown, the outer webs freckled with grey; tail broadly barred with dark grey, and whitish towards tip; beneath white, the fore parts little marked; breast and abdomen marked with long drop-shaped streaks, and flanks with bars of blackish; bill bluish-horn, blacker at tip; cere, legs and feet yellow; irides and claws blackish. *Length about 20 inches;* culmen 1·3; wing 13·5 to 14·5; tail 8; tarsus 2.

Adult Female: Resembles the male except in size. Length 21 to 24 inches; wing 15 to 16: tail 9·5 to 10; tarsus 2·05 to 3.

Young: Brown, with fulvous spots and mottlings on the edges of the scapulars and inner secondaries, rather more distinct on the upper tail-coverts; tail dark brown, with imperfect bands of fulvous, all the wing-coverts and quills externally dotted with minute fulvous spots, the latter externally barred with buff; crown, sides of head and nape buffy-white, striped with dark brown; forehead white with very narrow dark streaks; under surface white, with central dark brown patches on each feather, narrower on the throat; bill horn-blue, yellow at base of lower mandible.

Distribution: Inhabits Northern Scandinavia, Northern Russia, and the Arctic regions of Northern Asia and America.

Habitat: Similar to *F. candicans.*

ICELAND FALCON.

Falco islandus *Gmel.*

Adult Male: *Head white, streaked with blackish*, very narrowly so on forehead; cheeks marked like crown; prevailing colour of *upper parts brownish slaty-grey*, the feathers barred and bordered with whitish; tail-feathers greyer than back, and barred with darker grey; chin and throat pure white,

the latter scarcely marked; rest of under parts white, sparingly marked with elongated drop-shaped spots; *flanks* blotched or *barred* with blackish-brown; *bill* dull *horn-blue*, yellowish at base beneath; cere, orbits, legs and feet yellow; irides dark brown. Length 21·5 to 22 inches; culmen 1·35; wing 14·5 to 15; tail 8·9; tarsus 2·25.

Adult Female: Resembles the male except in size. Length 24 inches and over; culmen 1·5; wing 16 to 16·25; tail 9; tarsus 2·4.

Young: Much browner above than adults, the tail less conspicuously barred; under parts more or less broadly marked with brown, except throat, which is only streaked; cere and feet bluish-grey. May be distinguished from *F. gyrfalco* chiefly by its lighter head and absence of any marked moustachial stripe.

Distribution: Resident in Iceland and parts of Greenland, sometimes occurring as far south as the British Islands.

Habitat: Similar to that of *F. candicans*.

PEREGRINE FALCON.

Falco peregrinus *Tunst.*

Adult Male: *Crown*, nape, sides of face, and moustachial region *black;* back and upper parts generally bluish-grey, shading into ashy-grey towards tail, and barred with greyish-black; quills blackish, tinged with grey, slightly bordered on external margins with white towards tips; tail-feathers blackish, broadly barred with slaty-grey, darker towards tips; beneath white, tinged with rufous-buff, the *breast* and sides of body *broadly barred with dusky;* chin and throat minutely streaked; bill bluish, darker towards tip; cere, legs and feet yellow; irides brown. *Length 15 to 15·5 inches;* culmen 1·1; wing 12 to 12·5; tail 6·5; tarsus 2·1.

Adult Female: Resembles the male, but is much larger. Length 17 to 19 inches; wing 14; tail 7·75.

Immature Birds: General appearance of upper parts greyish-brown, most of the feathers margined with pale reddish-brown: nape marked with creamy-white and blackish; region round eyes and malar stripe blackish as in adult; chin and upper throat finely lined or spotted; rest of under parts

whitish or cream-coloured (especially towards vent) and broadly marked longitudinally, or blotched with brown; bill, cere and feet bluish; irides as in adult.

Distribution: Found throughout most of the Palearctic region. Does not appear to occur in Iceland, or, if so, only casually.

Habitat: Rocky eminences, sometimes sea-cliffs, generally near water.

Note.—In the Mediterranean basin there is another form of the Peregrine, *Falco punicus*, differing chiefly in size, the wing only measuring 11·5 to 12 inches. This form is, however, more strictly African than European.

LANNER FALCON.

Falco feldeggi *Schl.*

Adult Male: *Top of head and nape pale rufous*, shading into *nearly white on forehead* and finely streaked with black; moustachial region and eyebrows dark brown; inner webs of primaries, and *tail-feathers barred with cream-colour;* rest of upper parts dark grey, the feathers of back and wing-coverts bordered with buff; under parts very pale buff, shading into almost pure white on throat, with dark brown, round drop-shaped or (on chest) elongated spots; bill bluish-horn, yellowish at base; cere, legs and feet yellow; irides brown. *Length 17 to 18 inches;* culmen 1; wing 13·25; tail 7·5; tarsus 1·9.

Adult Female: Similar, but a trifle larger.

Immature Birds: Have the upper parts almost uniform dull sandy-brown, or some of feathers with paler margins; crown very pale, shading into slightly rufous on nape, and strongly marked with blackish longitudinal bands; central tail-feathers uniform brown, outer ones spotted, and all tipped with buff; under parts heavily marked with dark brown; the flanks almost uniform brown; moustache more highly developed; legs and feet greyish, tinged with yellow.

Distribution: A North African species which also breeds in Spain, and occurs not unfrequently in other parts of Southern Europe.

Habitat: Chiefly rocky regions, but sometimes frequents wooded country; partial to the vicinity of water.

SAKER FALCON.

Falco sacer *Gmel.*

Adult Male: *Head* and nape *white*, or *tinged with rufous* and streaked with dark brown; upper parts generally dull brown, the feathers margined with rufous; wings dark brown, the primaries marked on inner webs with cream-coloured or white blotches or bars; *all tail-feathers* pale brown, each one *having conspicuous cream-coloured spots on both webs, and whitish tips;* under parts white, copiously marked on breast and flanks, and less conspicuously on chest, with large round or oval spots of brown; cere and legs yellow; bill horn-blue; irides brown. Length 17 to 18·5 inches; culmen 1·2; wing 13·25 to 14; tail 7·5; tarsus 2·25.

Adult Female: Resembles the male, but is considerably larger.

Immature Birds: Have the upper parts a pale dingy brown, the feathers being narrowly margined with greyish or tinged with rufous, central pair of rectrices unmarked; entire under parts (except chin) boldly blotched with dark brown. Females can easily be distinguished from males by their greater size.

Distribution: Eastern and South-eastern portions of Europe, Northern Africa, and ranges in Asia as far east as China.

Habitat: Partial to wooded localities, but is also found in open country. Used in some countries for hawking purposes.

Note.—Very old birds appear to become more and more barred with rufous on the back and less spotted beneath, while the ground colour of the under surface approaches cream-colour.

HOBBY.

Falco subbuteo *Linn.*

Adult Male: *Above dark slate-grey*, darker on head and fore parts, and clearer on rump and tail-feathers; primaries blackish, these and the rectrices spotted on inner webs with white or very pale rufescent; beneath pale buff, sides of neck,

cheeks and *moustache black; breast* and sides of body *broadly streaked with black;* thighs and under tail-coverts ferruginous; bill blackish-slate; cere, orbits, legs and feet yellow; irides dark brown. Length 11.5 to 12 inches; culmen 0·7; *wing 10 to 11;* tail 5·5 to 6; tarsus 1·25.

Adult Female: Rather larger, otherwise similar to the male.

Immature Birds: Browner above, and most of feathers (except on upper part of back) with narrow pale margins, broader and more conspicuous on rump and upper tail-coverts; wing-quills narrowly margined with whitish; tail tipped with rufescent-white or rufous; thighs rufescent-buff.

Distribution: Breeds throughout most of the temperate portions of the Palearctic region, wintering in Southern Africa and India.

Habitat: Both wooded districts and more open country.

MERLIN.

Falco æsalon *Tunstall.*

Adult Male: *Above slate-blue streaked* in centres of feathers *with black*, darker on the head and upper back; *nape* feathers chiefly *rufous*, forming an ill-defined band; wing-quills blackish, barred with white on inner webs; tail-feathers broadly barred with black towards their apices, whitish tipped, and all (except central pair) barred and mottled with black on inner webs; *throat white;* sides of face streaked with black especially in malar region; rest of under parts washed with ferruginous, becoming clearer on thighs, and longitudinally marked with blackish, less conspicuously so on flanks and anal region; bill bluish, darker at tip; cere, legs and feet yellow; irides brown. Length 10 to 11 inches; culmen 0·5; *wing 8;* tail 5; tarsus 1·25.

Adult Female: Top of head, back, wing-coverts, and secondaries dull olive-brown, the shaft of each feather darker; tail-feathers brown, with narrow transverse bars of wood-brown; under surface of the body pale brownish-white, with darker brown longitudinal patches; somewhat superior in size to the male.

Immature Male: Resembles adult female.

Young in first plumage: Also resemble adult females, but are marked with rufous above.

Distribution: Breeds in the northern portions of Europe and Asia, ranging southward to Africa, Northern India and Northern China in winter.

Habitat: Wild open country, frequently on high moors.

RED-FOOTED FALCON, OR ORANGE-LEGGED HOBBY.

Falco vespertinus *Linn.*

Adult Male: Most of plumage *slate-grey*, darker above and paler on wings; *thighs, vent and under tail-coverts rich ferruginous;* bill dark bluish-horn towards tip; base of bill, cere, orbits, legs and feet vermilion; irides dark brown. Length 10·5 to 11 inches; culmen 0·65; *wing 9·2* to 10; tail 5; tarsus 1.

Adult Female: Crown, neck and under parts rufous, excepting chin and throat, which are white, tinged with rufous; rest of upper parts slate-grey (darker between shoulders), barred transversely with blackish; wing-quills dusky, washed with grey, and marked on inner webs with white spots; a distinct black ring round the eyes. Superior in size to the male.

Young in first plumage: Forehead whitish, shading into rufescent on crown, and mixed with white on nape; the entire upper part of head more or less streaked with black; rest of upper parts dingy slate-grey, the feathers broadly bordered with pale rufous; primaries conspicuously margined at their tips with white; under parts white, shading into pale buff (or entirely pale buff), broadly marked on breast and abdomen with brown.

Male after first moult: Differs from the adult in being a uniform pearl-grey with ferruginous thighs and flanks; outer tail-feathers and a few of lower back or wing-feathers barred as in first plumage.

Distribution: Breeds in Central Europe and in Western-central Asia, occurring in winter as far south as Damara Land in Africa. Of casual occurrence in Great Britain.

Habitat: Large forests; groves, or more open country, frequently the latter.

ELEONORAN FALCON.

Falco eleonoræ *Gené.*

Adults: Entire *plumage blackish-brown;* wings darker brown, almost black; rectrices marked with rufescent transverse bars on the inner webs; bill and claws black; basal part of lower mandible, orbits, *legs* and feet *yellow;* irides dark brown. *Length 15 to 16·5 inches;* culmen 0·8; wing 12 to 13; tail 7·5; tarsus 1·35.

Young in first plumage: These closely resemble young Hobbys, but may be distinguished from them by their greater size. In the tint of their colours there is considerable difference, some being much paler than others.

Distribution: Found in parts of Southern Europe, Northwestern Africa, Syria, Palestine, and some of the Mediterranean islands.

Habitat: Chiefly barren rocky regions.

KESTREL.

Falco tinnunculus *Linn.*

Adult Male: Top of head, rump and tail grey, the latter with a broad subterminal band of black and tipped with white; wing-quills blackish, paler margined; rest of *upper parts rust-coloured*, broadly *spotted with black;* forehead, cheeks and throat creamy-white, malar stripe dark grey; rest of under parts rufescent-buff, marked, especially on breast and flanks, with black spots; those on the former elongated; bill at base, cere and legs yellow; rest of bill horn-blue; *claws black;* irides brown. *Length 13 to 14 inches;* culmen 0·7; wing 8.5 to 9·5; tail 6·75 to 7; tarsus 1·5.

Adult Female: Above deep rufous-brown (somewhat paler on the head), the latter streaked and the back and wing-coverts regularly barred with black; tail crossed by narrow interrupted bars of black with broad subterminal bar as in adult male; under parts pale rufous striped with brown; flanks spotted; chin and throat paler and unmarked.

Immature Birds: Of both sexes resemble the adult female, but their plumage generally is paler; feathers of upper

parts having more or less broad pale margins and tips; especially noticeable on the tips of the primaries.

Distribution: Occurs throughout the Palearctic region (except in the extreme north), also in Africa.

Habitat: Precipices, moorland, cultivated land, &c.

LESSER KESTREL.

Falco cenchris *Naum.*

Adult Male: Head, nape, rump, upper tail-coverts and tail and *innermost secondaries grey; back* absolutely *unspotted*, but having the broad black subterminal tail-band as in *F. tinnunculus;* beneath similar to *F. tinnunculus*, but sparingly spotted; base of bill, cere and legs yellow; tip of bill bluish-black; *claws usually whitish;* irides brown. *Length 11·5 to 12·5 inches;* culmen 0·65; wing 9·5; tail 6; tarsus 1·1.

Adult Female: Very much resembles the female *F. tinnunculus*, but may be distinguished by its white or at any rate much paler claws, smaller size, and grey central rectrices. Length 12 to 13 inches; wing 9.

Immature Birds: Resemble adult female but are paler, the tail-feathers being tinged with rufous; quills, scapulars and secondaries pale tipped.

Distribution: Summer visitant to the northern shores of the Mediterranean and eastward into Persia. Winters in Southern Africa. Of casual occurrence in Northern Europe.

Habitat: Rocky localities, or among ruins. Insectivorous.

Genus PANDION.

OSPREY.

Pandion haliaëtus. (*Linn.*)

Adult: Forepart of head brown, crown and *nape white, streaked* (more or less broadly) *with brown, the feathers* on latter *elongated;* rest of upper parts dark brown; primaries white, on inner webs, barred with brown; inner webs of tail-feathers (except central pair) alternately barred with whitish and brown; beneath white, with a *broad band of pale brown across*

chest; bill black, cere and legs grey; irides yellow. Length 21 to 23 inches; culmen 1·6; wing 19 to 20; tail 8·5; *tarsus 2·25.*

Immature Birds: Differ from adults in having the feathers of upper parts tipped with buffish; the nape not streaked with brown; and the chest-band either wanting altogether, or evident merely by a few dark feathers.

Distribution: Found in most parts of Europe, Asia, Africa and North America, and in South America as far south as Brazil.

Habitat: Sea coast, neighbourhood of lakes or large rivers.

Note.—There seems to be no appreciable difference in the sexes, excepting that the female slightly exceeds the male in size, and shows more brown on the chest.

Order STEGANOPODES.

Family PELECANIDÆ.

Genus PHALACROCORAX.

CORMORANT.

Phalacrocorax carbo (*Linn*).

Adult (Summer): Forehead, crown, neck and under parts *black*, feathers of crown elongated (said to be more so in female than in male); those of neck more or less mixed with white hair-like feathers; gular pouch yellow, bare, surrounded with white; quills and tail-feathers black; rest of upper feathers dark brown, bordered with black; *large patch on either thigh pure white;* bill brown; irides green; legs and feet black. Length 34 to 36 inches; culmen 3·6; wing 14 to 14·5; *tail, of fourteen rectrices*, 7; tarsus 2·7.

Adult (Winter): Paler and greener in general tint; head and neck feathers more conspicuously mixed with white; white band surrounding gular pouch much larger in extent.

Immature Birds: Have the back feathers browner, tinged with bronze; head and hind neck brown; under parts brownish-white, marked with brown; sides of body dark brown, no white spot on thighs; bill brown, paler beneath.

Young in down: Pale sooty-brown.

Distribution: Almost a cosmopolitan species, frequenting most coasts except those of the Western Pacific.

Habitat: Precipitous sea cliffs. Breeds in colonies.

SHAG.

Phalacrocorax graculus (*Linn*).

Adult (Summer): *General colour rich dark green*, glossed

with bronze and purple, the feathers of back and wing-coverts margined with black; crown-feathers elongated into a *crest, curving forward;* bill black, yellow at base; irides green; legs and feet black. Length 26 to 27 inches; gape 3·6; wing 9 to 10·75; *tail (of twelve rectrices)*, 5·6; tarsus 2·3.

Adult (Winter): Similar, but lacks the crest.

Immature Birds: Upper plumage brown, tinged with green; chin and vent feathers whitish, rest of under parts dull brown, sometimes marked with white. May be readily distinguished from the young of *P. carbo* by having only twelve tail-feathers.

Distribution: Found throughout most of the coasts in the Western Palearctic region.

Habitat: Inhabiting sea cliffs or marine caves. Usually gregarious.

PYGMY CORMORANT.

Phalacrocorax pygmæus *Pall.*

Adult (Summer): Top of *head and neck reddish-brown*, darker on forehead; scapulars and wing-coverts blackish metallic-grey, bordered with black; wing and tail-quills black; *back and under parts* glossy greenish-*black*; neck, under parts and upper tail-coverts *marked with minute white elongated spots;* bill, legs and feet black; irides brown. Length 21 to 23 inches; culmen 1·35; *wing &;* tail 5·5 to 6·5; tarsus 1·3.

Adult Female: Smaller, less spotted about body, and with some grey feathers about the crissum.

Adults (Autumn): Resemble those in spring plumage, but lack the white spots, retaining few only about the eyes.

Young: Upper parts blackish-grey with some greenish reflections; scapulars and great wing-coverts bordered with black and tipped with grey; chin and throat whitish; rest of under parts dull brown, mixed with white; abdomen almost entirely white; flanks and under tail-coverts black; bill yellowish.

Distribution: Inhabits South-eastern Europe, Southern Asia and the north of Africa.

Habitat: Both fresh and salt water lagoons, or reedy banks of rivers.

Genus SULA.

GANNET.

Sula bassana (*Linn*).

Adult: *Head* and neck *buff*, which increases with age; all the *rest of the plumage white, except primaries, which are black*; bill horny-white; naked skin of the face bluish-black; irides pale straw-yellow; legs and toes in front green, otherwise nearly black. Length 30 to 34 inches; culmen 4·75; wing 18·75 to 19; tail 8·25; tarsus 2·7.

"In the bird of the first year the bill is almost black; the general plumage mottled dusky-ash and buff below, and *blackish-brown above, flecked with white.*

"In the second year the under parts are principally white, the head and neck being streaked with ash-brown; wings and mantle still dark, with fewer white spots. The third year the head and neck are white with a little tinge of buff, and the mantle is diversified with white, especially on the scapulars and secondaries; tail also shows some white; bill nearly white. During the fourth and fifth years the white gradually increases and pervades the upper parts, and in the sixth year the bird attains full plumage" (Saunders).

Distribution: Inhabits the coasts of Northern Europe and the Atlantic coasts of North America.

Habitat: Strictly marine. Rocky islands. Gregarious.

Note—In a specimen in first plumage in the author's collection, the bill is horn-brown, paler beneath.

Genus PELECANUS.

ROSEATE OR WHITE PELICAN.

Pelecanus onocrotalus *Linn.*

Adult: Crown feathers somewhat elongated; primaries black; secondaries blackish on inner webs; tuft of feathers on chest yellowish-brown; rest of plumage white, tinged with rose-colour, *feathers of forehead pointed towards culmen;* bare parts of head and gular pouch pale yellow; *legs and feet rosy-pink;* bill

grey, pink at sides; irides red. Length about 5 feet; culmen 13 inches; wing 25 to 28; tail 7·8; tarsus 4·5.

Immature Birds: Much duller than adults, being dull buff above, marked with pale brownish; wing-quills brown, instead of black; plumage not tinged with rose-colour; feathers of forehead pointed.

Distribution: Inhabits Southern and South-eastern Europe, Northern Africa and Asia.

Habitat: Reedy sides of, or bare islands in, fresh water marshes.

DALMATIAN PELICAN.

Pelecanus crispus *Bruch.*

Adult: Feathers of occiput elongated; wing-quills blackish, greyish at bases; scapulars and greater wing-coverts with blackish shafts; a large patch on lower throat pale yellow; bare part round eyes flesh-colour; *forehead feathers ending in an abrupt curved line, concave towards ridge of culmen;* gular pouch yellow; rest of plumage chiefly white, more or less tinged with grey; bill grey, red at sides; irides greyish; *legs and feet deep grey.* Length 60 to 72 inches; culmen 14·3; wing 26·3 to 28; tail 7·5; tarsus 4.7.

Immature Birds: Resemble the young of *P. onocrotalus* in being brownish-grey; but the feathers at the base of the bill come to an even line across the forehead, and not to a point; head devoid of crest; pouch greyish (Dresser).

Distribution: Inhabits South-eastern Europe, Northern Africa and ranges into Asia as far east as India.

Habitat: Very similar localities to *P. onocrotalus.*

Order HERODII.

Family ARDEIDÆ.

Genus ARDEA.

COMMON HERON.

Ardea cinerea *Linn.*

Adult Male: Fore part of crown, fore-neck, cheeks, a patch on chest, abdomen and lower tail-coverts white; occipital plumes black, much elongated; neck shaded with grey, broadly streaked in front with black, the feathers of lower part much elongated; primaries black; *upper parts* generally ashy-*grey*, with elongated feathers paler grey, *sides of breast marked boldly with black;* bill and irides yellow; legs and feet greenish. Length 36 inches; culmen 5; wing 17·5 to 18·5; tail 7; tarsus 5 to 5·5.

Adult Female: Differs only from the male in having slightly duller coloration and shorter occipital and neck plumes.

Immature Birds: Crown dull grey; back of neck and back brownish-grey; occipital plumes and those of chest scarcely elongated; front part of neck and chest more conspicuously marked with black; whole of under parts duller than in adults; bill brownish above, yellow beneath; legs brownish.

Distribution: Inhabits most parts of Europe, Asia and Africa, excepting in the extreme north of the two former continents.

Habitat: Margins of rivers or lakes; salt lagoons.

PURPLE HERON.

Ardea purpurea *Linn.*

Adult: Crown and nape bluish-black, feathers of occiput elongated; chin and throat white, neck reddish-brown, streaked with black and on the chest with creamy-white and the feathers elongated; *back slaty-grey furnished with rufous plumes;* carpal-joint buff; wings conspicuously shaded with rufous; *beneath* shaded *rufous, marked with* grey and *black;* bill yellow, shaded with brown above; legs and feet greenish, dusky in front; irides yellow. Length 30 to 36 inches; culmen 5·2; wing 14 to 14·5; tail 5; tarsus 4·5 to 5.

Female: Smaller and duller than male.

Immature Birds: Forehead blackish; occipital feathers and those of scapulars and chest not elongated; neck much paler, especially in front, where it is whitish streaked with black; black streaks on sides of neck absent; under parts rufous shaded with white; bill pale yellow, dark brown on ridge of culmen; irides pale yellow.

Distribution: Inhabits most of the temperate and tropical regions of the Eastern Hemisphere; migratory in the northern parts.

Habitat: Dense reedy morasses or the reedy margins of lakes.

GREAT WHITE EGRET.

Ardea alba *Linn.*

Adult (Summer): Entire *plumage white;* lower parts of *back furnished with* hair-like *plumes* reaching to the tail; feathers on crop also elongated and lanceolate, occipital feathers very little elongated; bill black; legs and feet brown, paler on tibia. *Length 40 to 42 inches;* culmen 5; wing 16 to 18; tail 6·75; tarsus 7·5.

Adult Female: Has shorter plumes upon the back.

Adult (Winter): Has the bill yellow shaded with brown.

Immature Birds: Lack the elongated feathers, which are assumed about the third year; bill yellowish; legs and feet pale brown.

Distribution: Inhabits South-eastern Europe, Western Asia and Northern Africa.

Habitat: Similar localities to the preceding.

LITTLE EGRET.

Ardea garzetta *Linn.*

Adult (Summer): *Plumage entirely white; two feathers on occiput considerably elongated*; back and crop feathers also elongated and lanceolate, the former hair-like; bill and legs black; feet yellowish; soles yellow; irides pale yellow; bare space round eye greenish. Length *22 to 23 inches;* culmen 3·5; wing 10 to 11; tail 4·3; tarsus 4 to 4·5.

Adult (Winter): Similar but lacks the plumes, both dorsal and occipital.

Immature Birds: Are white with greyish tinge, and have no elongated plumes.

Distribution: Inhabits Southern Europe, Africa, most of Asia and Australia. Of casual occurence in Northern Europe.

Habitat: Swamps and reed-beds where vegetation is very dense.

BUFF-BACKED HERON.

Ardea bubulcus *Aud.*

Adult Male (Summer): *Crown*, nape, chest and back-plumes *rufous buff*, the feathers of those parts much elongated and filamentous; rest of plumage entirely white; bill and bare space in front of eye yellow; legs greenish-yellow; irides yellowish. *Length 17 to 20 inches;* culmen 2·4; wing 9·5; tail 3·9; tarsus 3·2.

Adult Female: Similar, but smaller with less conspicuous plumes.

Adult (Winter): Plumage white, only shaded with rufous-buff on crown.

Immature Birds: Closely resemble adults in winter plumage, but back also tinged with pale buff.

Distribution: Inhabits Southern Europe and Africa generally, but occurs in Asia in the south-western parts only.

Habitat: Marshes; pastures, often among cattle or wild animals.

SQUACCO HERON.

Ardea ralloides *Scop.*

Adult: *Crown feathers much elongated, white, edged with black;* sides of face, neck, chest and back creamy-buff, becoming browner and shaded with purple between the shoulders; crop feathers much elongated (less so in female); rest of plumage white; bill black at tip, pale bluish at base; legs and feet olive; claws black; lores and orbits green; irides yellow. Length 18·5 inches; culmen 2·6; wing 8·5 to 9; tail 3·5; tarsus 2·25.

Immature Birds: Differ only from adults by having much shorter occipital plumes, which have a buff ground-colour and not white; back darker in general tint and throat feathers streaked with black.

Distribution: Inhabits Southern Europe and Africa, ranging eastward to the Caspian. Of casual occurrence only in Northern or Central Europe.

Habitat: Marshy localities, often found with herds of domesticated animals.

Genus NYCTICORAX.

NIGHT HERON.

Nycticorax griseus (*Linn*).

Adult: *Crown*, nape, *back* and scapulars *black, with a green lustre* especially on the back; *wings and tail grey;* long plumes depending from occiput and rest of plumage (including forehead and eyebrows) white; bill blackish; legs and feet brown; irides dark red. *Length 21 to 23 inches;* culmen 2·75; wing 11·5 to 12; tail 4·6; tarsus 3.

Immature Birds: Upper plumage dull ashy-brown, the head darker and neck streaked with pale yellowish brown; feathers of back and wing-coverts tipped conspicuously with pale brownish-white; under parts whitish, somewhat obscurely streaked with dull brown; ridge of culmen and tip of bill dark brown, rest of bill yellowish; legs and feet greenish; irides brown.

Distribution: Inhabits Southern and Eastern Europe, Africa and Southern Asia.

Habitat: Densely wooded regions in swampy localities.

Genus ARDETTA.

LITTLE BITTERN.

Ardetta minuta (*Linn*).

Adult Male: Crown, nape, *back*, scapulars and tail *black, glossed with green;* wing-quills black, the coverts, cheeks, sides of neck, and *under parts* generally *buff*, shading into white on chin and at vent; some of feathers at side of chest with brown centres; irides, bill, lores, legs and feet yellowish, the legs tinged with green. *Length 12 to 13 inches;* culmen 2; wing 5·85; tail 2; tarsus 1·65.

Adult Female: Crown brownish-black; cheeks, hinder part and sides of neck rufous; fore part of back and scapulars chestnut-brown, margined with buff; patch on carpal joint rufous; wing-quills dark brown; fore part of throat and chest feathers with brown centres; rest of plumage much as in male.

Immature Birds: Closely resemble adult female, but more marked with buff on back, and streaked with brown on throat.

Distribution: Breeds in Central Europe and Western Asia, ranging southward as far as Central Africa in winter. A rare visitor to Northern Europe.

Habitat: River-banks, willow or reed-beds.

Genus BOTAURUS.

BITTERN.

Botaurus stellaris (*Linn.*)

Adult: *Crown uniform glossy-black, upper parts* generally *buff*, irregularly vermiculated and otherwise *marked with dark brown or blackish*, more boldly so on upper back and scapulars; *wings* blackish, *barred with chestnut;* under parts buff, streaked on throat with chestnut and elsewhere streaked or vermiculated with dark brown; on either side of chin and upper throat a broad blackish streak; bill greenish-yellow, brown towards tip above; legs and feet greenish; irides brown. *Length 25 to 28 inches;* culmen 2·8; wing 11·75 to 12·5; tail 4·25; tarsus 3·65.

Immature Birds: Closely resemble adults.

Distribution: Found throughout most of the Eastern Hemisphere, excepting in the extreme north.

Habitat: Densely overgrown marshy places, very retiring in habits, feeding at night.

Family CICONIIDÆ.

Genus CICONIA.

WHITE STORK.

Ciconia alba *Bechst.*

Adult: Greater *wing*-coverts, primaries, secondaries and scapulars *black; rest of plumage white;* bill, legs and feet coral-red; bare skin round eye black; irides brown. *Length 40 to 44 inches;* culmen 7·5; wing 22·5 to 24; tail 9; tarsus 8·9.

Immature Birds: Black on the wings duller than in adult, bill blackish, legs and feet dull red.

Distribution: Breeds in Central and Southern Europe and Africa, ranging as far north as Southern Sweden, and as far east as Turkestan, migrating southward in autumn. Of casual occurrence in Great Britain. Winters chiefly in South Africa.

Habitat: Open marshy country, frequenting also towns and villages.

BLACK STORK.

Ciconia nigra (*Linn*).

Adult: Entire head, neck, and *upper parts black*, glossed with purplish or coppery reflections; wings and tail more glossy black; *under parts white;* bill, naked skin round eye, legs and feet scarlet; irides reddish-brown. *Length 40* to *42 inches*; culmen 7·4; wing 19 to 21; tail 9·5; tarsus 7·4.

Immature Birds: Are much browner above than adults and in first plumage have whitish tips to the feathers of head and neck; legs and bill greenish.

Distribution: Inhabits a large proportion of the Palearctic region, also India and Africa. Of rare occurrence in Northern Europe, including England.

Habitat: Frequents marshes or marshy woods. Solitary in habits.

Family PLATALEIDÆ.

Genus PLATALEA.

SPOONBILL.

Platalea leucorodia *Linn.*

Adult: Occipital feathers elongated into a *crest*, these and feathers round lower neck *pale yellow*, the former paler; *rest of plumage* entirely *white; bill* dark slate-colour, barred with black in places, the terminal, *broadly flattened* portion yellow, bordered with dusky brown; chin yellowish; legs and feet black; irides crimson. Length 32 inches; culmen 7·1; wing 15 to 16; tail 5; tarsus 5; bare part of tibia 3·5.

Adult (Winter): Similar, but lacks crest.

Immature Birds: Resemble adults in winter, but have a brown bill.

Distribution: Inhabits Central and Southern Europe, the Azores, Canaries, Northern Africa, and ranges across Asia to India and Japan.

Habitat: Open marshy places, or mud-banks near the sea-coast. Gregarious.

Family IBIDÆ.

Genus PLEGADIS.

GLOSSY IBIS.

Plegadis falcinellus (*Linn*).

"**Adult**: Top of the head and cheeks, back, wings, tail, flanks, and under tail-coverts bright metallic-green and purple; remainder of the plumage, upper part of the back, and a broad band on the wing-coverts bordering the shoulders bright *ferruginous-brown;* beak and legs olive-black; irides dark brown" (Shelley). *Length 22 inches;* culmen 5·25; wing 11·5; tail 4·7; tarsus 4. (The adult female slightly less.)

Immature Birds: Dull brown both above and beneath, and lack the glossy appearance of adults; throat patched, and crown and hind neck streaked with greyish-white.

Distribution: Breeds in Southern Europe, and is distributed over most of the temperate and tropical regions of both hemispheres.

Habitat: Lagoons or marshes, densely overgrown with reeds or bushes. Gregarious.

Family PHŒNICOPTERIDÆ.

Genus PHŒNICOPTERUS.

FLAMINGO.

Phœnicopterus roseus *Pall.*

Adult: *Primaries black, rest of wings* and wing-coverts pale *scarlet;* rest of plumage white shaded with rose-colour; bill, legs and feet pale pink, black towards tip of former; irides pale yellow. Length 44 to 45 inches; culmen 5·5; wing 16 to 16·5; tail 7; *tarsus 12·25.*

Immature Birds: Are dull brown on back and wings, marked with darker brown or black, and with a tinge of red on latter; neck and under parts tinged with buff; bill, legs, feet and irides dull lead-colour.

Distribution: Found in Southern Europe, in countries adjoining the Mediterranean, in Africa and in Asia, as far east as India.

Habitat: Inland lakes, shallow lagoons or sea-shore. Gregarious.

Order ANSERES.

Family ANATIDÆ.

Genus ANSER.

GREY-LAG GOOSE.

Anser cinereus *Meyer.*

Adult: Head, back of neck and upper part of back ashen-grey shading into *lavender-grey on rump;* back-feathers mostly pale margined; wings shaded grey, with paler grey margins and primaries tipped with dark brown; middle wing-coverts like the back; tail-feathers broadly tipped with white, brown at bases; narrow frontal band white; beneath white, shaded on neck and breast with pale brownish-grey; flank-feathers ashy-brown with broad pale margins and tips; bill pinkish; *nail whitish; legs* and feet *flesh-colour;* irides brown. Length 30 to 35 inches; culmen 2·5; wing 17·5; tail 5·75; tarsus 3.

Immature Birds: Resemble adults but are darker, the grey shoulders and rump, and pink colour of legs and feet distinguish them from the young of other species of Geese.

Distribution: Inhabits the Palearctic region, wintering in Northern Africa and India.

Habitat: Open marshy country, frequenting both salt and fresh water. Gregarious except during the nesting season.

BEAN GOOSE.

Anser segetum (*Gmel*).

Adult: Though very similar to preceding species may be distinguished by the centres of back feathers being much

darker brown; *lower part of back and rump uniform dark brown; bill* orange in central part, *tipped with black* and black at base beneath; *legs* and feet *orange-yellow;* irides hazel-brown. Length 31 to 34 inches; culmen 2·35; wing 18 to 18·9; tail 5·5; tarsus 2·75.

Young in first plumage: Only differ from adults in being slightly paler in colour, and are suffused with buff on head and neck (Seebohm).

Distribution: Inhabits the Northern Palearctic region, migrating as far south as North-west Africa in autumn.

Habitat: Inland marshy localities or open country, also frequents the sea-coast.

PINK-FOOTED GOOSE.

Anser brachyrhynchus *Baill.*

Adult: Closely resembles the Bean Goose, but is shorter in the wing and has the central portion of bill, *legs and feet pink* instead of orange. Length 28 to 29 inches; culmen 1·95; *wing 17·5;* tail 5·8; tarsus 2·75.

Immature Birds: Differ only in being somewhat darker in general coloration.

Distribution: Breeds in the northern portions of the Palearctic region, migrating southward in autumn.

Habitat: Similar to that of *A. segetum.*

WHITE-FRONTED GOOSE.

Anser albifrons (*Scop*).

Adult: Base of upper mandible and *forehead white;* crown and neck brown, rest of upper parts darker brown, the back feathers having pale margins and rectrices broadly white tipped; wing-quills black; coverts grey, the greater ones white tipped; upper part of chest and flanks brown, shading into whitish on centre of body (whiter in winter); *breast and abdomen boldly blotched with black;* bill, legs and feet yellow; nail of upper mandible whitish; irides hazel-brown. Length 27 to 28 inches; culmen 2·25; *wing 17;* tail 6; tarsus 2·6.

Immature Birds: Darker in plumage; frontal feathers

darker brown than those on crown; black blotches on breast almost entirely absent; bill pale brownish at tip.

Distribution: Breeds in the northern portions of the Palearctic region, migrating southward in autumn as far as Northern Africa and India.

Habitat: Marshy localities; grass fields, &c.

LESSER WHITE-FRONTED GOOSE.

Anser erythropus (*Linn*).

Adult Male: A small form of the White-fronted Goose, with darker plumage, though otherwise closely resembling *A. albifrons;* bill pinkish-white, the nail horn-colour; legs and feet orange-yellow; irides brown. Length 20 inches; culmen 1·5; *wing 15·5;* tail 5; tarsus 2·5.

Adult Female: Resembles the male, but is smaller, rather duller and more rufescent in tinge of colour (Dresser)

Young: Unknown.

Distribution: Breeds in Arctic Russia and Siberia, migrating southward in autumn.

Habitat: Similar to that of *A. albifrons.*

Note.—This species, like the preceding one, is variable in size.

Genus BERNICLA.

BRENT GOOSE.

Bernicla brenta (*Pall*).

Adult (Eastern Form): *Back*, scapulars, wing-coverts and tertiaries *brownish-black;* crown, neck, chest, wings, rump and tail black, *on either side of neck a white patch*, not meeting in front, marked with black; feathers of lower part of breast and abdomen slaty-grey with paler margins; vent, upper and under tail-coverts white; bill, legs, feet and claws black; irides dark brown. *Length 21 to 23 inches;* culmen 1·5; wing 12·5 to 13; tail 4·2; tarsus 2.

Immature Birds: Upper parts much browner than in the adult, dark brown taking the place of black on head, wings, &c., white neck patches absent; under parts similar to adult.

Distribution: Breeds in the Arctic portions of the Palearctic region, migrating southward as far as the Mediterranean in autumn.

Habitat: Sea-shore, or waste grounds and stubble fields inland.

Note.—In the Western Atlantic birds the lower part of the breast is brownish-white, and the sides are barred with pale brown.

BARNACLE GOOSE.

Anser leucopsis (*Bechst*).

Adult: Forehead, *cheeks* and throat pure *white;* lores black; crown, neck, and wing and tail-quills black; *back* feathers *grey*, *barred subterminally with black* and tipped with white; hinder parts beneath white, with pale grey bars on sides and flanks; bill, legs, feet and claws black; irides hazel-brown. *Length 25 inches;* culmen 1·65; wing 15·75 to 16; tail 5·9; tarsus 2·85. Female slightly less.

Immature Birds: Black parts chiefly brownish-black (especially on the back); white on face suffused with buff.

Distribution: Breeds in Arctic Europe, passing southward on migration to the Mediterranean and Egypt.

Habitat: Marshes (either salt or fresh water), inland lagoons, &c.

RED-BREASTED GOOSE.

Bernicla ruficollis (*Pall*).

Adult: *Crown*, hind neck, back, wings and tail *black; loral patch*, a broad stripe round auriculars, extending on to lower part of neck, where it nearly meets a narrow collar, *white;* auricular patch, *throat and chest chestnut;* chin and upper breast black; abdomen, sides of rump and tail-coverts white; flanks barred with black; bill, legs, feet, and claws black; irides hazel-brown. *Length 20 to 22 inches;* culmen 1; wing 14 to 14·5; tail 6; tarsus 2·1. The female differs from the male only by being slightly smaller.

Immature Birds: Auricular patch whitish, with spot only

of rufous in centre; general colour of upper and under parts dark brown, tinged on chest with rufous.

Distribution: Found in the extreme east of Europe during migration. Breeding in Northern Siberia.

Habitat: Probably very similar to that of *A. brenta.*

Genus CHEN.

SNOW GOOSE.

Chen hyperboreus (*Pall*).

Adult Male: *Primaries black*, shading into grey at base, with white bases to shafts; primary coverts grey; rest of *plumage snow-white;* bill pale red; legs and feet darker red; irides hazel-brown. *Length 30 to 33 inches;* culmen 2 to 2·5; wing 17 to 18; tail 6; tarsus 2·75 to 3.

Adult Female: Differs only by being a trifle smaller than the male.

Immature Birds: Differ in having the upper parts brownish-grey, the scapular feathers bordered with white; sides of head, rump, tail, and under parts white; neck and chest suffused with grey; bill darker than adults; legs leaden grey.

Distribution: A Nearctic species which is also found in Eastern Siberia, and occurs not unfrequently on passage in the Urals and other European localities. Has been met with in Germany, Greece, &c.

Habitat: Very similar localities to the Wild-Goose.

Genus CYGNUS.

MUTE SWAN.

Cygnus olor (*Gmel*).

Adult: *Plumage white; bill red, with large tubercle at base*, edges of mandibles, nail and orifices of nostrils and lores black; irides brown; legs and feet black. Length about 60 inches; culmen 3·5; *wing 25 to 27;* tail 10; tarsus 4·25.

Immature Birds: Plumage nearly uniform greyish-brown, slightly paler beneath; bill blackish, showing scarcely a trace of tubercle at first; legs pale leaden-grey.

Distribution: Inhabits most of the Palearctic region.
Habitat: Both inland and salt waters.

POLISH SWAN.

Cygnus immutabilis *Yarr.*

Adult: Resembles *C. olor* in most respects, but the *bill* is *redder* and the *tubercle* decidedly *smaller;* legs and feet slate-grey; irides brown. Length about 60 inches; culmen 3·5; *wing 21·5 to 23·5;* tail 6·8; tarsus 4.
Immature Birds: Back white, suffused with buff; bill differing from adults only in having the red parts pale pinkish; legs and feet dull grey.
Distribution: Probably inhabits the Palearctic region, has sometimes occurred during winter in England.
Habitat: Similar to that of *C. olor.*

WHOOPER SWAN.

Cygnus musicus *Bechst.*

Adult: Loral region, *basal portion of bill with part of nasal depression yellow;* edges of mandibles, nostrils and anterior portion of bill black; irides brown; legs and feet nearly black. Length about 60 inches; culmen 3·75; *wing 23·5 to 25·5;* tail 8·9; tarsus 4·3.
Immature Birds: Plumage pale ash-brown, paler beneath, shading into white on abdomen; bill, legs and feet dull flesh-colour.
Distribution: Found throughout most of the Palearctic region, breeding within the Arctic Circle.
Habitat: Similar to that of preceding.

BEWICK'S SWAN.

Cygnus bewicki *Yarr.*

Adult: Bill with a large patch at either side of basal por-

tion of upper mandible, with the loral region, lemon-yellow; *rest of bill (including nostrils) black;* irides brown; legs and feet black. Length 46 to 50 inches; culmen 3·4; *wing 19 to 21;* tail 7; tarsus 3·8.

Immature Birds: Plumage greyish-brown, their smaller size at once distinguishing them from the young of other species.

Distribution: Found in most of Palearctic region except in Iceland, but more abundantly so in the eastern portion. Probably does not breed west of the Petchora Valley.

Habitat: Closely resembles that of other Swans.

Genus TADORNA.

SHELDRAKE.

Tadorna cornuta (*Gmel.*).

Adult Male: Head, front part of neck and scapulars glossy black; chest, basal portion of neck, *centre of back*, tail and smaller wing-coverts *white; a broad ring of chestnut round upper part of body;* primaries and tips of rectrices black; outer webs of secondaries very metallic-green; centre of chest, *breast* and abdomen *black;* bill and legs bright orange; irides brown. Length 25 to 26 inches; culmen 2·15; wing 13 to 13·5; tail 5: tarsus 2.

Adult Female: Resembles the male but measures rather less.

Immature Birds: Differ from adults in having a patch on forehead white, the black parts browner, and the chestnut ring round upper part of body not so broad or dark; centre of breast and abdomen brown instead of black.

Young in first plumage: May be readily distinguished by the feathers at base of bill, a streak on throat and under parts being white with a few brown tips to some of the side-feathers.

Distribution: Inhabits the coasts of Northern-central and Southern Europe, the latter chiefly in winter only. Breeds in the Black Sea and Caspian regions. Breeds also on high Central Asiatic lakes, occurring as far east as Japan.

Habitat: The sea coast or salt lagoons.

RUDDY SHELDRAKE.

Tadorna casarca (*Linn.*).

Adult Male: *Head pale creamy-rufous*, white on forehead; a narrow ring round lower neck, primaries, upper tail-coverts and *tail black;* wing-coverts white; outer web of secondaries metallic-green, *otherwise rufous-buff;* bill, legs and feet black; irides brown. Length 24 to 25 inches; culmen 1·7; wing 13 to 14; tail 5·25; tarsus 2·25.

Adult Female: Similar to male but without any ring round the neck; fore part of head also paler.

Young in first plumage: Are paler than adult females and have the wings and wing-coverts largely suffused with brown.

Immature Birds: Closely resemble adult female.

Distribution: Found in South-eastern Europe, where it breeds, as also in Northern Africa and in Central Asia. Common winter visitant to India. Of rare occurrence in Northern Europe.

Habitat: Fresh inland waters; reedy margins of rivers or lakes.

(*NON-DIVING DUCKS*).

Genus ANAS.

WILD DUCK.

Anas boscas *Linn.*

Adult Male: *Head deep metallic-green;* narrow collar white; lower neck, fore part of back and chest chocolate; scapulars grey and brown, pencilled with dusky-brown; back, rump and *middle tail-feathers black*, glossed more or less with purple; outermost rectrices bordered with white; central ones narrow and curled upwards; wings greyish-brown, the *speculum* deep metallic *purple and green*, bordered on either side by black and white; under parts greyish-white, finely vermiculated with grey; bill yellow; legs and feet orange; irides dark brown. Length 23 to 24 inches; culmen 2·25; wing 10·5 to 11; tarsus 2.

In summer the female plumage is assumed by the male until October.

Adult Female: Above dark brown, the feathers all margined with brownish-buff, more conspicuously so on the back; beneath dull buff, streaked or dappled with dark brown, except on chin and upper throat; bill dark olive-grey with black nail.

Young in first plumage: Very nearly resemble the adult female.

Young Male (October): Differs from adult bird in having the head almost similar to the female but with some slight trace of green gloss on the crown; white collar absent; throat sparingly spotted with brown; upper back greyer; chest feathers narrowly bordered with whitish.

Distribution: Inhabits most of the Palearctic and Nearctic regions.

Habitat: Marshes, lakes and rivers or sea coast and salt marshes in winter.

MARBLED DUCK.

Anas angustirostris *Ménétr.*

Adult: Plumage generally *dull brown, marbled with pale greyish-brown;* wings clear grey-brown; *wing-speculum* pale *creamy-brown;* tail-feathers tipped with cream-colour; around the eyes dark brown; beneath greyish-white, the neck streaked, and breast and flanks barred with brown; bill, legs and feet leaden-grey; irides brown. *Length 14·5 inches;* culmen 1·75; wing 7·9; tarsus 1·2.

Immature Birds: Apparently unknown.

Distribution: Inhabits the extreme South of Europe, and North-western Africa, ranging eastward as far as Scinde. Breeds in Spain.

Habitat: Reedy marshes inland.

GADWALL.

Anas strepera *Linn.*

Adult Male: Crown and nape dusky-brown with reddish speckles; rest of head and neck whitish, speckled with brown; general colour of *upper parts brown*, transversely *barred with* narrow, undulating *white* lines; *upper and under tail-coverts*

black; some of scapulars brown with buff edges; primaries greyish-brown; some of secondaries brown, others *black and* others again *white* on outer margins, giving a variegated *speculum;* most of smaller coverts chestnut; chest and flanks marked like fore part of back, but more boldly and with blackish-brown; centre of abdomen whitish; bill black; legs and feet orange-brown; irides brown. Length 19 to 20 inches; culmen 1·9; wing 10·5 to 11; tail 4·2; tarsus 1·4. Female plumage assumed in summer.

Adult Female: General appearance of upper parts much resembling *A. boscas*, but may at once be distinguished by its white wing speculum, but showing less chestnut on coverts; chest pale rufous-brown, shading into white on breast, each feather having a blackish centre; chin and rest of under parts white, obscurely spotted on flanks with brown.

Young in first plumage: Closely resemble adult females but lack any chestnut on the wing-coverts.

Immature Birds: Differ from the adults in being less boldly marked about the wings and young males are said to have narrower margins to the feathers of the back.

Distribution: Inhabits both Palearctic and Nearctic regions, breeding in Northern Europe and also in Spain.

Habitat: Lakes, rivers and other *fresh* waters.

SHOVELLER.

Anas clypeata *Linn.*

Adult Male: Head and fore neck deep metallic-green, most of lower neck and scapulars white; elongated scapulars white, black and blue; centre of back brown; rump and tail-coverts glossy black; *wing-speculum metallic-green;* tips of greater wing-coverts white; smaller wing-coverts slaty-grey; under parts below the chest chocolate-brown; *bill broadly dilated*, black; legs and feet orange; irides yellow. Length about 21 inches; culmen 2·75; wing 9 to 10; tail 3; tarsus 1·3. Female plumage assumed in summer-time.

Adult Female: Above dark brown, the back feathers having broad buff margins; wings as in male, but the grey of the smaller wing-coverts is duller and less pronounced, and speculum less brilliant; beneath brownish-buff, blotched on

breast, flanks and under tail-coverts with dark brown ; bill dark brown above, orange beneath ; irides brown.

Young in first plumage: Resemble adult female, but the females show scarcely a trace of blue on the wings or lustre on the speculum ; bill pale reddish-brown ; legs and feet flesh-colour.

Males in first breeding plumage : Are marked with white on throat with a few dark crescentic bands on breast, dark bars on lower abdomen and black under tail-coverts mottled with chestnut and white (Seebohm).

Adult Males in moult : Distinguishable from females by having darker upper parts generally, more brilliantly coloured wing-speculum and dark, plain upper tail-coverts (Seebohm).

Distribution: Found in the Palearctic, Northern Ethiopian and Nearctic regions, ranging further south in winter. Breeds in most countries of Europe, except in the extreme north.

Habitat : Both fresh waters and salt, but more often the former.

TEAL.

Anas crecca *Linn.*

Adult Male : *Head chestnut ;* from the eye towards back of neck a broad metallic band (green or purple according to the light) bordered by black and white ; many of back feathers and those on sides of body finely vermiculated, alternately with white and blackish ; *wing-speculum black externally, internally green*, bordered by black ; chin black ; chest and breast white, the former boldly spotted with black ; under tail-coverts black at bases, some otherwise buff ; bill black ; legs and feet dull brown ; irides hazel. *Length about 14 inches ;* culmen 1·5 ; wing 7·25 ; tail 2·7 ; tarsus 1. During summer the female dress is assumed.

Adult Female : Dark brown above, most of the feathers bordered by pale reddish-brown ; wing-speculum much as in male but bordered by a white band, formed by white tips to some of secondaries ; chin and throat white ; rest of under parts dull white, most of the feathers having obscure brown centres.

Young in first plumage : Differ only from the adult female in being more distinctly spotted with brown beneath, the young females also having a less brilliant wing-speculum.

Distribution: Inhabits the Palearctic region and occurs rarely in the Nearctic. Breeds in Europe from Iceland to the Mediterranean.

Habitat: Inland fresh waters.

GARGANEY.

Anas querquedula *Linn.*

Adult Male: Crown and nape deep umber-brown, bordered by white; chin black; rest of head and upper throat reddish-brown, streaked with white; elongated scapulars black, conspicuously banded with white; *prevailing colour of wings bluish-grey; speculum green, margined* on either side *with white;* fore parts beneath yellowish-brown, each feather marked with semicircular black bars; rest of under parts white, finely vermiculated towards vent with blackish; under tail-coverts spotted with black; bill blackish, paler at base beneath; legs and feet greyish-brown; irides hazel-brown. *Length 14 to 15 inches;* culmen 1·5; wing 7·6; tail 2·85; tarsus 1·1. The female plumage is worn for a long period during summer.

Adult Female: Slightly smaller. Above dark brown, darker on head; back feathers margined with sandy-brown and whitish; wing-speculum duller than in male with no metallic gloss; coverts ashy-grey, the greater ones tipped with white; chin white; under parts generally white, spotted on sides and abdomen with brown, eye-stripe indistinct.

Young in first plumage: Resemble adult female but are darker and have more rufous under parts.

Adult Male in Autumn: Very similar to dark females, but show a more brilliant wing-speculum.

Distribution: Inhabits most of the more temperate and southern portions of the Palearctic region, occurring in winter as far south as the Malay Archipelago.

Habitat: Fresh water ponds or lakes where there is abundance of vegetable growth.

PINTAIL.

Anas acuta *Linn.*

Adult Male: Head and fore part of neck dark brown;

under parts of body and a line down either side of neck white; back and scapulars finely vermiculated with grey and brown, the latter elongated; *wing-speculum metallic-green*, bordered before by red and behind by white; *tail grey, except central feathers which are black, elongated and acuminate;* lower tail-coverts chiefly black; bill black on centre of culmen, leaden-blue on the margin; legs and feet black; irides brown. *Length about 2 feet;* culmen 2 inches; wing 10·5 to 11·25; tail 7·5; tarsus 1·5.

Adult Female: Head and neck reddish-brown, speckled with darker brown; feathers of upper parts generally dark brown, bordered or otherwise marked with reddish-white; wing-speculum dull brown; tail-feathers less elongated than in male; beneath dirty yellowish-white, spotted on flanks and under tail-coverts conspicuously and elsewhere obscurely with dark brown; bill dark brown: slightly smaller than the male.

Adult Male (Summer): Very nearly resembles the adult female, but may be distinguished by being duller brown above, the rump washed with grey, wing-speculum brighter, bill pale blue and of greater size.

Young in first plumage: Closely resemble the adult female.

Distribution: Inhabits most of the Palearctic and Nearctic regions, occurring in the Indian region during winter.

Habitat: Frequents both large inland waters and the sea-coast.

WIGEON.

Anas penelope *Linn.*

Adult Male (Winter): Head and neck rich ferruginous, except *crown* and forehead which are *ochreous-buff;* chest tinged with chestnut; lower part of neck behind, *back and scapulars finely vermiculated white and dark grey*, the latter elongated; innermost secondaries nearly black with white margins to the outer webs; primaries brown, wing-coverts white except on shoulder where they are brown; greater coverts black-tipped; *wing-speculum deep metallic green*, bordered with black; under parts chiefly white, finely vermiculated with grey on flanks; under tail-coverts black; bill slaty-grey, black at tip; legs and feet dark greyish-blue, darkest on the

webs; irides hazel-brown. Length 20 to 21 inches; culmen 1·4; wing 10·25; tail 4·6; tarsus 1·3.

Adult Female: Head and neck buffish-brown, marked with blackish; feathers on upper parts brown, margined with buffish-brown; wings dusky-grey, some of coverts tipped with white; speculum dull grey, not metallic; under parts below chest white, shaded with brownish-buff on flanks; under tail-coverts barred with dark brown.

Adult Male (Summer): Head and neck as in female; back darker, some of feathers obscurely vermiculated; wings as in winter, but having the coverts chiefly grey; many of back and scapular feathers margined with fulvous; chest and flanks ferruginous-brown; under tail-coverts grey, blotched with black.

Young in first plumage: Do not conspicuously differ from adult female; males may be recognised by the metallic wing-speculum and females by the grey and white of upper parts being replaced by brown and buff (Seebohm).

Distribution: Found throughout most of the Palearctic region and sparingly in the Nearctic.

Habitat: Fresh waters or marshes inland; also the sea-coast.

(*DIVING DUCKS*).

Genus FULIGULA.

POCHARD.

Fuligula ferina (*Linn.*).

Adult Male: *Head* and neck *chestnut; chest* and fore part of back brownish-*black; back*, wing-coverts *and breast greyish-white, finely vermiculated with dark grey;* upper and under tail-coverts black; wings and tail dull greyish-brown; wing-speculum grey; lower abdomen washed with dark grey and closely vermiculated; bill pale blue in centre, black at base and tip; legs and feet bluish-grey except membranes which are black; irides orange. Length about 18 inches; culmen 2·25; wing 8·4; tail 2·75; tarsus 1·5.

Adult Female: Fore parts buffish-brown; throat whitish;

back and wings much as in male, but the vermiculations are brown, and are absent on wing-coverts ; chest reddish-brown, the feathers with paler mottlings ; abdomen greyish-white, flanks vermiculated and otherwise marked with brown.

Young in first plumage: Resemble adults but are browner above and less marked on the flanks. Males may be distinguished by their redder fore parts and backs speckled with white.

Immature Males : Are browner on the chest.

Distribution : Found throughout most parts of Europe, excepting in the extreme north ; ranges across Central Asia to Japan and occurs in various parts of India.

Habitat : Ponds and fresh-water lakes, or the sea-coast in winter.

RED-CRESTED POCHARD.

Fuligula rufina (*Pall.*).

Adult Male : *Head* and fore neck *reddish-brown*, the crown feathers somewhat paler and elongated ; lower neck, breast and *abdomen black ;* back and tail pale brown ; secondaries and some of primaries white ; *wing-speculum, shoulders and flanks white ;* bill, legs and feet bright orange ; the nail of bill white ; irides reddish-brown. Length 21 inches ; culmen 2·25 ; wing 10 to 10·75 ; tarsus 1·5.

Adult Female : Crown feathers less elongated : general colour of upper parts greyish-brown, suffused with yellowish-brown on head, darkest on rump and palest on margins of some of scapulars ; white shoulder-spot absent ; white of primaries and secondaries suffused with grey ; beneath white mostly marked with grey.

Young in first plumage : Much resemble adult female but are marked beneath with brown. Males at all ages have longer crests than females.

Distribution : Inhabits the southern countries of Europe, breeding in Eastern Spain, the Mediterranean islands, also in southern parts of Germany and Russia. Breeds also in South-western Asia and in the Northern Sahara.

Habitat : Frequents fresh waters almost exclusively.

SCAUP.

Fuligula marila (*Linn.*).

Adult Male: *Head and* entire *fore parts* deep, *glossy black*; centre of *back* and scapulars *greyish-white*, *vermiculated with black*; rump and tail-coverts deep brown; prevailing colour of wings dusky-brown, the lesser coverts mottled with white, *secondaries white*, broadly tipped with brown; abdomen white; bill pale blue, the nail black; legs and feet dark grey, membranes blackish; irides yellow. Length 18 to 20 inches; culmen 1·8; wing 8·5; tail 2·5; tarsus 1·4.

Adult Female: All feathers round base of bill nearly white; general colour of upper parts and chest chocolate-brown, sparingly vermiculated with whitish; flanks obscurely barred with brown.

Young in first plumage: Have less white round base of bill, very little vermiculation above; breast feathers tipped with white, otherwise much resembling adult female.

Distribution: Found throughout most of the Western Palearctic region, occurring in the southern parts in winter. Distributed also over Northern and Central Asia and the Nearctic region.

Habitat: Chiefly confined to fresh waters.

TUFTED DUCK.

Fuligula cristata (*Leach*).

Adult Male: Entire *fore parts* and breast *glossy black*, the *crown feathers considerably elongated*; rest of *upper parts* black or *brownish-black*, very finely vermiculated on centre of back and scapulars with brown; *secondaries white*, broadly tipped with dark brown; under parts below breast glossy white; under tail-coverts black; bill pale slate-colour with black nail; legs bluish-grey; membranes dusky; irides pale yellow. Length 15 to 17 inches; culmen 1·5; wing 8·2; tail 2·4; tarsus 1·25.

Adult Female: Differs from the male by being dark brown above; crest shorter; abdomen brownish-grey, shading into

dark brown on under tail-coverts; flanks blotched with reddish-brown; wing-speculum smaller.

Young in first plumage: Are paler brown than adult females and have a considerable number of white feathers about base of bill and on abdomen; crest absent.

Immature Males: Are less glossy than adults, the breast feathers are white-tipped and the chin is partly white.

Distribution: Inhabits the more temperate parts of the Palearctic region.

Habitat: Like the last-named frequents fresh waters, also the sea-coast in winter.

FERRUGINOUS OR WHITE-EYED DUCK.

Fuligula nyroca (*Güld.*).

Adult Male: *Head, neck, upper throat and sides of body rich ferruginous;* lower neck encircled with a dusky collar; spot on chin whitish; *back*, wings and tail *dark brown; wing-speculum white*, bordered before by black; breast and under tail-coverts pure white, shading into brown on abdomen; bill slaty-grey with black nail; legs and feet dark lead-colour, blackish on webs; *irides white.* Length about 16 inches; culmen 1·6; wing 7 to 7·5; tail 2·3; tarsus 1.

Adult Female: Differs from male in having the colours more obscure, the feathers of back and breast having lighter tips; abdomen marked with brown, and irides not so white.

Adults (Winter): Duller and less conspicuously red than in breeding dress, and have the chest feathers tipped with white. Females may be distinguished by their tawny abdomens, some of the feathers having white tips.

Young of the year: Scarcely distinguishable from the adult female, though a trifle less ferruginous.

Distribution: Found in the temperate and southern portions of the Palearctic region. Of rare occurrence in Northern Europe.

Habitat: Chiefly confined to large fresh waters.

GOLDENEYE.

Fuligula clangula (*Linn.*).

Adult Male: *A large spot below the lores*, lower portion of neck, under parts, *inner secondaries*, middle and greater wing-coverts *and scapulars pure white*, the latter streaked with black, tail-feathers dusky-grey; *rest of plumage black*, glossed on head and neck with green and violet; bill black; legs and feet orange, the membranes and soles almost black; irides bright yellow. Length 17 to 18 inches; culmen 1·25; wing 8·8 to 9·15; tail 3·75; tarsus 1·5.

Adult Female: Considerably smaller. Head and fore neck uniform umber-brown; lower neck in front, abdomen and flanks white; upper parts blackish, the feathers margined with ashy-grey; wing-speculum white; greater wing-coverts white, tipped with black; chest dark grey, the former mottled with white.

Young in first plumage: Resemble the adult female, but are duller and show browner thighs. The males may be distinguished by their larger size.

Distribution: Frequents the Northern Palearctic and Nearctic regions. Scarce in South-western Europe.

Habitat: Principally frequents rivers and lakes, but may also be found on the sea-coast.

ISLANDIC OR BARROW'S GOLDENEYE.

Fuligula islandica (*Gmel.*).

Adult Male: Resembles *F. clangula*, but is larger, the head is more fully crested, and the gloss on the head is purplish, varying in some lights to bottle-green with a purplish tinge; between the eye and the bill is an *irregular crescentic white patch;* rest of plumage as in *F. clangula;* but the white markings on the scapulars are broader and rounder, and the white on the wing consists of *two smaller patches divided by a broad black band;* bill dark plumbeous; irides rich yellow; legs yellow. *Length about 20 inches;* culmen 1·5; wing 9·2; tail 4; tarsus 1·6 (Dresser).

Adult Female: Can only be distinguished from the female of *F. clangula* by its larger size and possibly by a somewhat larger bill.

Distribution: Resident in Iceland and many of the Circumpolar regions.

Habitat: Inland lakes or rivers and fjords.

HARLEQUIN DUCK.

Fuligula histrionica (*Linn.*).

Adult Male: Forehead and crown black, at first bordered by white and towards the nape by chestnut; a large *blotch between eye and bill*, a spot on ear-coverts, a stripe at either side of neck, a *broad collar* (narrowing towards the front), a broad patch bordered with black on sides of chest and part of scapulars, *pure white*; rest of head and fore neck blackish-blue; *wing-speculum metallic-purple*; *flanks chestnut*, rest of plumage chiefly ashy-grey, shading into brown on centre of abdomen and into black on tail-coverts, the outermost under ones tipped with white; bill dark slate-grey; legs and feet brown with darker webs; irides hazel-brown. Length about 17 inches; culmen 1·1; wing 7·75 to 8; tail 4·3; tarsus 1·25.

Adult Female: Somewhat smaller. Upper plumage deep brown; white patch before the eye obscure and separated into two parts by a brown stripe; auricular-patch more pronounced; under parts copiously spotted or mottled with white; flanks reddish-brown.

Young in first plumage: Resemble adult female, but are browner on chin and throat and the white patch before the eye is mottled thickly with brown.

Males in first breeding dress: Browner beneath than adults, show very little chestnut on flanks and less white on scapulars.

Distribution: Found in the northern portions of Europe and America. Breeds abundantly in Iceland.

Habitat: Rapid streams or rivers in secluded regions.

LONG-TAILED DUCK.

Fuligula glacialis (*Linn.*).

Adult Male (Summer): *Head*, fore part of neck and upper back *white*, loral region shaded with brownish-grey; on either side of throat a large patch of brown; back, rump, wings, tail-feathers and upper tail-coverts dark brown; *the two central rectrices very much elongated and narrow;* elongated lower scapulars, and under parts below the breast pure white; the flanks shaded with pale grey; *entire breast brown;* basal portion of bill and nail black, otherwise orange-red; legs and feet dark slate-colour, darker on webs; irides reddish-brown. Length (without central rectrices) about 22 inches; culmen 1·2; wing 8·4 to 9; tail 6·9; tarsus 1·2.

Adult Female (Autumn): Crown, nape and region below the ear-coverts dull sooty-brown; cheeks and throat whitish, mottled with dull brown; a ring round lower neck nearly white; upper parts generally dark brown, most of the feathers more or less broadly margined with rufous; rump feathers tipped with whitish; beneath white, shading into dull brown on breast which becomes darker towards the white neck-ring; most of chest feathers with darker centres.

Adult Male (Winter): Differs from the summer plumage by having the cheeks only greyish-white and the scapulars furnished with broad rufous or rufous-buff margins and dark centres.

Young in first plumage: Resemble the adult female, but are greyer about the head and more uniformly brown on the back, the scapulars and feathers of mantle margined with dull rufous-brown.

Immature Males: Show whitish bases to the scapular feathers, which contrast strongly with very dark brown of centre of back.

Distribution: A Circumpolar species which migrates southward in autumn through both Eastern and Western Hemispheres.

Habitat: High fresh-water lakes or tarns. Frequents the sea-coast in winter-time.

Genus SOMATERIA.

EIDER DUCK.

Somateria mollissima (*Linn.*).

Adult Male: Forehead and *crown black* with a whitish line on the hind crown; hinder part of cheeks and *nape pale green;* throat, hind neck, back, *scapulars*, innermost (elongated) secondaries, most of wing-coverts and a patch on either side of the rump *white;* upper breast suffused with rich reddish-buff; wing and tail-quills dark brown; rest of plumage chiefly black; bill dull green; legs and feet pale olive-green; irides hazel-brown. *Length 24 to 26 inches;* culmen (from forehead) 2·25; wing 11·5; tail 4; tarsus 1·75.

Adult Female: Plumage reddish-brown, marked on head and back of neck with streaks of dusky-brown, elsewhere barred transversely with black; wing and tail-quills dark brown; greater wing-coverts and some of secondaries furnished with white tips.

Immature Males: At first like adult female, but when changing in their first winter the head and neck are mottled with two shades of dark brown, with a few white feathers appearing through in different parts; lower portion of neck, and upper part of back, mottled black and white; wing-coverts and inner secondaries becoming white; rest of plumage black; legs and bill greenish-grey. The pure white colour is assumed by slow degrees and the appearance of the adult birds is not attained until the third winter (Saunders).

"**Young in first plumage**: Closely resemble adult females, but the two white alar bars are very indistinct and the margins of all the feathers are grey instead of chestnut" (Seebohm).

Distribution: Breeds in the northern and arctic portions of the Western Palearctic region, migrating southward in autumn, also found in Arctic America.

Habitat: Almost exclusively confined to the sea-coast.

KING EIDER.

Somateria spectabilis (*Linn.*).

Adult Male: *Crown and nape pearl-grey*, cheeks washed

with pale green; neck and fore part of body, most of wing-coverts, and a spot on either side of rump white; breast washed with cream-colour; feathers on centre of upper mandible reaching to the nostrils, feathers bordering frontal tubercles, a V-shaped mark on throat, *elongated innermost secondaries*, and rest of plumage chiefly *black; bill orange, with two* elevated, compressed *tubercles at the base;* legs and feet orange; irides yellow. *Length 22 to 24 inches;* culmen 1·2; wing 10·75 to 11; tail 4; tarsus 1·65.

Adult Female: Resembles the female of *S. mollissima*, but the forehead feathers project beyond those on the side of the bill instead of extending little more than half as far (Seebohm).

Immature Males: Tubercles at base of upper mandibles small; less white on wing-coverts; otherwise similar to adult. Moulting adults may always be recognised by their bills.

Young in first plumage: Resemble other immature Eiders except in the formation of the bill and the arrangement of the feathers bordering it.

Distribution: Resident in the Northern Palearctic and Nearctic regions. Scarce south of the Arctic Circle.

Habitat: Probably similar to that of *S. mollissima*.

STELLER'S EIDER.

Somateria stelleri (*Pall.*).

Adult Male: Longitudinal band on centre of throat, a broad ring round *upper neck*, hinder neck, mantle, centre of *back*, rump, tail-coverts, two spots on either side of breast and orbits deep *black*, glossed with green or purple; wing- and tail-quills dark-brown; *wing-speculum violet;* elongated, decurved innermost secondaries glossy blue on outer webs, and white on the inner; loral spot and a large patch on hinder crown green; *breast* and sides pale ferruginous, deepening into *chestnut* at the middle and shading into black at the vent; bill dark slate-grey with lighter nail; legs and feet dusky-grey with darker webs; irides brown. Length 18 to 19 inches; culmen 1·45; wing 8·5 to 9; tail 3·5; tarsus 1·25.

Adult Female: Dark reddish-brown, becoming blackish on belly and under tail-coverts, much mottled and barred with

black, especially about the neck and breast; no white except on linings of wings and tips of greater coverts and secondaries, these forming two white bars; the speculum imperfect, bluish-black.

Males in first breeding dress: Have grey markings on the wing-coverts and flanks (Seebohm).

Young in first plumage: Somewhat resemble adult females, but have no black on the belly (Seebohm).

Distribution: Breeds on the shores of the Arctic Ocean, in Northern Russia and Siberia, occasionally wandering into temperate Europe during winter.

Habitat: Essentially a coast bird, otherwise little is known respecting it.

Genus Œdemia.

COMMON SCOTER.

Œdemia nigra (*Linn.*).

Adult Male: *Entire plumage glossy black; bill with patch in centre* and a shade underneath *yellow*, otherwise black; legs and feet blackish, the webs darker; irides hazel-brown. Length 18 to 20 inches; culmen 1·9; wing 9·4; tail 4; tarsus 1·7.

Adult Female: Feathers of upper parts dark brown, darker on head and pale-edged on back; sides of head greyish-black; chin and throat white; rest of under parts brown, shading into greyish-white (brown mottled) on abdomen; wings and tail blackish-brown; bill black, somewhat swollen at base of upper mandible.

Immature Male: Resembles adult female but has the cheeks, chin and throat almost uniform dirty white, freckled or speckled with brown; tubercles at base of upper mandible imperfectly developed; nostrils yellow.

Young in first plumage: Except for being duller generally, very closely resembles adult female.

Distribution: Breeds in Arctic Europe and North-western Siberia, occurring in South-western Europe and down the Volga to the Caspian on migration.

Habitat: The sea-coast except during the breeding season

VELVET SCOTER.

Œdemia fusca (*Linn.*).

Adult Male: *A spot behind the eye and wing-speculum pure white, otherwise* glossy *black* above, rather browner beneath; bill chiefly orange, black on the nostrils and tubercles, also round margin of upper mandible; legs and feet dull orange, brownish on webs; irides pale brown. Length about 22 inches; culmen 1·4; wing 10·7; tail 3·5; tarsus 1·75.

Adult Female: Browner above than the male; beneath grey, spotted and streaked with brown; wings as in male; on the lores and above the ear-coverts a greyish-white patch; bill dark brown; legs and feet duller red than in male.

Young in first plumage: Resemble adult female, but males are generally darker and show scarcely anything of the light face patches.

Distribution: Breeds in the northern portions of the Palearctic region, though not so far north as *O. nigra*. Occurs on migration as far south as the Mediterranean.

Habitat: Like the Common Scoter, frequents the sea-coast in winter, returning inland to breed.

Genus ERISMATURA.

WHITE-HEADED DUCK.

Erismatura leucocephala (*Scop.*).

Adult Male: *Head white*, except *centre of crown*, which with back of neck below the nape are *black;* remainder of the plumage *ferruginous-brown, freckled with pale brown* and dusky, darkest on fore part of chest and upper tail-coverts; abdomen dirty white; tail and legs black; *bill blue-grey*, without a spot; irides brown. Length 17 to 18 inches; culmen 1·8; wing 6 to 6·25; tail 4·4; tarsus 1·3.

Adult Female: The white on the head restricted to the chin and upper throat and a stripe passing below the eye; plumage generally darker and much more rufous.

Young: With still less white on the head. Plumage generally brownish-black; bill and feet bluish-black.

Distribution: Resident in Southern Europe and Northern Africa, ranging into South-western Asia.

Habitat: Fresh-water lakes where reeds or other aquatic plants abound. Also frequents the neighbourhood of the coast.

Genus MERGUS.

GOOSANDER.

Mergus merganser *Linn.*

Adult Male: Entire *head* and fore neck *black, glossed with green;* fore part of back, most of scapulars and primaries black; lower back, *rump and tail ash-grey;* secondaries and wing-coverts pure white; rest of plumage *white, suffused* (when alive) *with* delicate *salmon-buff;* bill vermilion with black nail; legs and feet orange with darker webs; irides red. *Length about 26 inches;* culmen 2·4; wing 10·5 to 11; tail 5; tarsus 1·9 to 2.

Adult Female: Head and fore neck pale chestnut, shading into white on chin; occipital feathers conspicuously crested; upper parts generally slaty-grey, streaked with brown; primaries dusky-brown; central rectrices and broad tips of greater wing-coverts white; beneath white, marked on sides and flanks with grey; bill, legs and feet less bright than in male. Slightly smaller.

Males in moulting dress: Closely resemble adult females but have traces of a black ring round the neck, are darker on the back and shoulders, and show the whitish wing of the immature bird (Seebohm).

Young: Resemble adult females, but are duller and possess short occipital plumes.

Distribution: Inhabits the Palearctic and Nearctic regions, breeding in the north and migrating southward in autumn.

Habitat: Chiefly frequents fresh waters not far from the coast, but is also often met with in bays or estuaries of the sea.

RED-BREASTED MERGANSER.

Mergus serrator *Linn.*

Adult Male: *Head, a pendent crest on the occiput*, and upper part of the neck *greenish-black*, with glossy reflections; lower neck white, a mesial line behind black; *breast reddish-brown, spotted* and variegated *with black;* near the insertion of the wing several large white spots bordered with black; upper part of the back, scapulars, edge of the wing- and adjoining coverts, and primary-quills black; the rest of coverts and secondary quills white, but these last, as well as the greater coverts, black at bases, the whole together forming a large speculum divided by two transverse bars; some of the innermost secondaries white edged with black; lower back, *rump*, and flanks, *greyish-white* with fine transverse, undulating black lines; belly and abdomen white; tail brown; bill orange-red, the ridge and nail dusky; irides red; legs orange. *Length 22 inches;* culmen 2·4; wing 9·5 to 10; tail 3; tarsus 2.

Adult Females and Young in first plumage: "So closely resemble birds in similar plumage of the Goosander that they can only be distinguished by their smaller size; they measure in length of wing 8·25 to 9 inches instead of 9·5 to 10·25 inches" (Seebohm).

Males in first breeding dress: "Have brown lower backs, and the white on the sides and back of the neck is streaked with brown" (Seebohm).

Males in moulting dress: "Closely resemble males in first plumage, but have the dark markings on the breast and flanks grey instead of brown" (Seebohm).

Distribution: Found throughout the Palearctic and Nearctic regions.

Habitat: Rock-bound bays and estuaries or inland fresh waters.

SMEW.

Mergus albellus *Linn.*

Adult Male: Fore part of cheeks, elongated nape-feathers, centre of back, two narrow crescentic tapering bands on either

side of chest, margins of some of scapulars, primaries and some of secondaries black, the latter having white tips; innermost secondaries, *rump*, tail and vermiculations on flanks *grey; plumage otherwise white;* the black head patches glossed with green; bill, legs and feet slaty-grey, the webs darker; irides reddish-brown. *Length 16·5 to 17·5 inches;* culmen 1·25; wing 7·5 to 7·75; tail 3·8; tarsus 1·3.

Adult Female: Forehead, crown, nape and back of neck dull chestnut; round the lower neck an obscure grey ring; loral region black; upper parts generally slate-grey, barred with pale grey and shading into nearly black on the rump; wings much as in the male.

Adult Male in moulting dress: Resembles adult female but is distinguishable by the crescentic marks on the sides of the chest.

Young in first plumage: Are very similar to adult females, but have brown lores and a more highly developed grey ring round the lower neck; the lesser wing-coverts considerably marked with brown; wing otherwise as in female.

Distribution: Inhabits the northern portions of Europe and Asia, migrating southward in autumn.

Habitat: Chiefly found on inland fresh waters, but also frequents estuaries or bays of the sea.

Order COLUMBÆ.

Family COLUMBIDÆ.

Genus COLUMBA.

WOOD-PIGEON OR RING-DOVE.

Columba palumbus *Linn.*

Adult: Above brownish-grey, shading into pale slate-grey on lower back and rump; sides of neck and nape glossed with green or purple (according to the light), having also below a large *white patch on either side of the neck;* wings dark brown, the feathers narrowly bordered on outer webs with white; *outermost wing-coverts white on outer webs;* tail blackish-brown with a broad subterminal band of lavender-grey; beneath vinaceous-grey, shading into pale grey on centre of abdomen; bill scarlet at base, yellowish towards the tip; legs and feet coral-red; irides pale yellow. Length 16 to 17 inches; culmen 0·9; *wing 9·5 to 10;* tail 6·5; tarsus 1·2.

Adult Female: Closely resembles the male, but has smaller white patches on the neck, and the metallic colours less brilliant.

Young: Differ from adults in having no white on the neck.

Distribution: Inhabits the Western Palearctic region except in the extreme north, ranging through Western Asia also.

Habitat: Open cultivated country and woods (both evergreen and deciduous).

ROCK-DOVE.

Columba livia *Bonnat.*

Adult Male: Prevailing colour bluish-grey, shading into paler grey on upper back; lower part of back and *rump white;*

tail-coverts ashy-grey ; tail nearly black at tip ; wings conspicuously marked with *two broad, black transverse bars ;* feathers of chest and sides of neck glossed with shades of green and purple ; bill brownish-black ; legs and feet deep red ; irides pale orange. Length 11 to 13 inches ; culmen 0·7 ; wing 8·5 ; tail 4·5 ; tarsus 1.

Adult Female : Distinguishable only by its slightly smaller size and less conspicuously coloured neck.

Young in first plumage : Are suffused with brown on the back and under parts.

Distribution : Generally distributed over the Western Palearctic region, except in the far north.

Habitat : Precipitous cliffs, chiefly on the coast.

STOCK-DOVE.

Columba œnas *Linn.*

Adult Male : *Plumage generally, including the rump, greyish-blue ;* fore part of breast washed with vinaceous-red ; *sides of neck glossed with metallic green and purple ;* some of wing-coverts and innermost secondaries marked with brown patches, thus forming a rudimentary wing-bar ; bill red at base, whitish towards tip ; legs and feet coral-red ; irides red. Length about 13·5 inches ; culmen 0·7 ; wing 8·5 to 9 ; tail 4 ; tarsus 1.

Adult Female : Slightly smaller and with less of the metallic gloss on the neck or of the pink suffusion on the chest.

Young : Browner and with no metallic appearance on the neck.

Distribution : Occurs throughout the Western Palearctic region as far north as lat. 60° or 61°, and ranges into Asia as far as the Tigris river.

Habitat : Wooded regions, commons, etc., nesting in holes in trees or in old rabbit burrows.

Genus TURTUR.

TURTLE DOVE.

Turtur communis *Selby.*

Adult Male : *Head* and nape *lavender ;* on either side of

the neck a *patch of black feathers, white tipped*, back chestnut; rump lavender tinged with brown, shading into brown on tail-coverts; scapulars, innermost secondaries and most of wing-coverts dark brown, broadly margined with yellowish-brown; wing- and tail-quills dusky brown, shaded with grey; *tail broadly tipped with white* (except central feathers) and outermost feathers externally bordered with white; breast pinkish-lavender, paler on chin and shading into purer lavender on flanks; abdomen and under tail-coverts white; bill and claws brown, legs and feet crimson, irides reddish-brown. *Length 11·5 to 12 inches;* culmen 0·75; wing 7; tail 4·5; tarsus 0·8.

Adult Female: Duller in tints, otherwise similar to the male.

Young in first plumage: May at once be distinguished by the absence of the black and white neck patches.

Distribution: Found throughout temperate portions of the Western Palearctic region, in Northern Africa and in Asia as far east as Yarkand.

Habitat: Thick deciduous woods, tall hedgerows, etc.

COLLARED TURTLE DOVE.

Turtur risorius (*Linn.*).

Adult: Head, neck, and under parts pale grey, suffused with red and shading into bluish on abdomen and under tail-coverts; on sides of neck a black transverse band, nearly meeting behind; *back*, scapulars, some of secondaries and wing-coverts *pale brown*, shading into blue on sides of rump; outer wing-coverts also blue; wings and bases of tail-feathers beneath dark brown, *tail-feathers above, dark brown at bases* shading to whitish at tips; *central rectrices brown throughout;* bill black; legs and feet dark red; irides crimson. Length about 11 to 12·5 inches; culmen 0·8; wing 6 to 7; tail 4·3; tarsus 0·9.

Young: Differs from the adult in being much duller in colour; the vinous coloration less apparent, the light ending to the tail is smaller; and there is only little indication of the collar on the hind neck.

Distribution: A Southern Asiatic species chiefly, ranging into Asia Minor and Palestine. Resident also in Turkey.

Habitat: Palm groves, among dense bushes.

Family PTEROCLIDÆ.

Genus PTEROCLES.

BLACK-BELLIED SAND-GROUSE.

Pterocles arenarius (*Pall.*).

Adult Male: Crown and nape grey, tinged with red; fore parts beneath grey, with an isabelline tinge, shading into *rust-colour on upper throat; lower breast and abdomen black;* across the chest a transverse band of black; feathers of upper parts dark grey or blackish, the tips broadly blotched with reddish-ochre; wing-quills bluish-grey with black shafts; some of inner primaries slightly tipped with white; outer webs of secondaries marked with orange; tail brownish-ash colour, tipped with white and barred towards base with dark brown, central feathers brownish-grey; under tail-coverts pale yellowish-white; feathers on tarsus pale buff; bill and irides dark brown; feet leaden-grey. Length about 14·5 inches; culmen 0·65; wing 9·2; *tail 4;* tarsus 1·25.

Adult Female: Above sandy-ochreous, barred (or on head and hind neck streaked) with black; fore parts beneath dull greyish-ochreous, becoming more rufous in tint on chest; cheeks streaked like the crown, but more minutely; upper throat crossed by a horizontal black stripe; chest spotted with black; across the breast a black, horizontal band as in the male; abdomen black; feathers on the tarsus dull yellow and on the under tail-coverts whitish.

Young Male: Head, neck, breast and entire upper parts dull sandy-yellow or pale ochre, barred and marked with black; feathers on the wing-coverts and breast with a subapical black bar following the contour of the feather; quills dull greyish-black, broadly tipped with dull clay, slightly marbled with blackish-brown; secondaries dull yellowish-white except at the base, where they are white and broadly tipped with dull greyish-black, slightly marbled with dull fulvous; elongated inner secondaries marked like the dorsal feathers, but slightly washed with fulvous; tail dull clay-yellow, marked with fulvous and barred with black; abdomen black.

Distribution: Found in South-western Europe, Northern Africa and Western Asia.

Habitat: Open sandy or grassy plains.

PIN-TAILED SAND-GROUSE.

Pterocles alchata (*Linn.*).

Adult Male: Above *brownish-grey, spotted* on back and scapulars *with dull golden-yellow;* primaries bluish-ash colour on outer webs, and greyish-brown on inner webs; first quill with outer web chiefly black; wing-coverts all narrowly bordered with black; rump and upper tail-coverts pale yellow, barred with black; central rectrices elongated and tapering; apical portion dark brown; remaining tail-feathers blackish-ash on inner webs; barred with black on outer webs; *chin and upper throat black,* shading into dull yellow on lower throat; across chest a broad band of chestnut, bordered above and beneath by black; *abdomen white;* bill brown; feet greyish-brown; irides dark brown. Length about 14 inches; culmen 0·65; wing 7·3; *tail 5·3;* tarsus 1·15.

Adult Female: Above yellowish, closely barred with black and grey, most of back- and scapular-feathers with a broad sub-terminal ashy-blue band; wings paler than in male; coverts barred at their bases and tipped with black; chin and upper throat white, bordered with reddish; chest band less extended than in male, bordered above by two black bands.

Young Male (Autumn): Though closely resembling the adult above, except for the absence of the elongated tail-feathers, the under parts are distinct; chin and upper throat white and black mixed; lower throat dirty ochreous, barred with pale brown; chest chiefly dull ferruginous, but also mixed with a few blackish and ochreous feathers, the latter barred as on lower throat; the black band below ill-defined.

Young in first plumage: Probably resemble the adult female, but the tail-feathers are much shorter.

Distribution: Inhabits Southern Europe and Northern Africa, ranging eastward as far as India.

Habitat: Sandy plains like *P. arenaria.*

Genus SYRRHAPTES.

PALLAS'S SAND-GROUSE.

Syrrhaptes paradoxus (*Pall.*).

Adult Male: General colour of upper parts sandy-buff or isabelline; back, scapulars and innermost secondaries, rump and upper tail-coverts, the two centre tail-feathers, and the inner webs of the remainder are transversely barred with very dark brown; primaries lavender, with black shafts; secondaries are dark brown on the outer webs, otherwise pale buff, as are also the primary-coverts; outer webs of tail-feathers, except two centre ones, narrowly edged and broadly tipped with buff; an obscure ring round the neck and ear-coverts yellowish-orange; beneath *sandy-buff*, *paler on chin*, thighs and under tail-coverts; feathers of the upper breast have narrow dark brown tips; *lower breast* and belly *blackish;* vent white; axillaries buffish-white, tipped with brown; bill and claws brown; irides dark brown. Length 14 to 15 inches; culmen 0·4; wing 9 to 10; *tail 7·6;* tarsus 1.

Adult Female: "Differs from the male in having the barring on the back more obscure and extending on to the hind neck and crown; the yellowish-orange on the head and neck is paler, and bounded on the throat with a black margin; the dark band across the breast is entirely absent; and the outside primaries and centre tail-feathers are not so elongated" (Seebohm).

Young Male: "Has the barring on the back intermediate between that on the adult male and female" (Seebohm).

Distribution: Inhabits the Tartar steppes of Central Asia, periodically occurring throughout most of Europe, often in vast quantities. Has nested in Great Britain.

Habitat: High steppe regions: salt plains.

Order GALLINÆ.

Family PHASIANIDÆ.

Genus PHASIANUS.

PHEASANT.

Phasianus colchicus *Linn.*

Adult Male: *Head and neck metallic-purple*, or green, according to the light; ear-coverts brown; naked skin round the eyes scarlet, spotted with black; general tint of back-feathers *copper-coloured, tipped with black*, or with dark brown centres, and marked with pale yellow; rump and upper tail-coverts light brownish-red; wings greyish-brown, mottled with darker brown; long tail-feathers yellowish-brown, regularly barred with black; feathers on breast and abdomen orange-red, with purplish and golden reflections, tipped and evenly-margined with violet-black; lower abdomen, vent and under tail-coverts brownish-black; bill pale horn-colour; legs, feet and spurs greyish-brown; irides hazel. Length about 3 feet; culmen 1·2 inches; wing 9·5; tail 18 to 24; tarsus 2·5.

Adult Female: Prevailing tint yellowish-brown, variegated with grey and rufous, with the centres of most feathers on head, neck and back black; region round the eyes feathered; tail shorter than in male, dull ochreous, vermiculated and barred with black; beneath dull buff, the centres of feathers black; in size somewhat inferior to the male.

Young in first plumage: Resemble the adult female.

Distribution: Originally a native of South-eastern Europe and Asia Minor; now naturalised over most of temperate Europe.

Habitat: Wood and plantations where there is plenty of cover.

Note—The Chinese form with white neck ring is most commonly found in England now.

Genus CACCABIS.

GREEK PARTRIDGE.

Caccabis saxatilis (*Meyer*).

Adult: Prevailing colour of upper parts greyish-blue, washed on nape and back with reddish tinge; quills dark brown, outer webs of primaries partly ochreous, secondaries margined externally with yellowish-white; inner secondaries and scapulars washed with buffish-brown; central tail-feathers and bases of the remaining ones bluish-grey, tail otherwise deep fox-red; a broad *black* band encircles the upper part of the throat, which is white, passing through the eyes and traversing the forehead and *lores;* superciliary region whitish; *breast below black band dove-blue*, the feathers slightly edged with buff; flank-feathers dove-blue, conspicuously barred across with black and chestnut; rest of under parts rich ochreous; bill, legs and feet coral-red; irides dark brown. Length about 14 inches; culmen 0·85; wing 6·4; tail 3·9; tarsus 1·5.

Young: "Resembles the adult, but is duller, the collar is much narrower, the upper parts are much darker and browner, and there are traces of bars on the tail; the feathers on the flanks are also much less richly coloured" (Dresser).

Distribution: Inhabits the higher mountain regions of Southern Europe.

Habitat: "Arid, rocky, elevated localities, descending to the lower mountain regions in hard weather."

CHUKOR PARTRIDGE.

Caccabis chukar (*Gray*).

Adult: Differs from *C. saxatilis* in being more distinctly rufous on the back; ear-coverts washed (partly) with rufous; chin and throat yellowish-buff; *region before the eyes at base of upper mandible pale yellowish-white;* three black spots at base of lower mandible. Length about 12·5 inches; culmen 0·8; wing 6·4; tail 3·8; tarsus 1·75.

Distribution: Inhabits the Greek islands. Found also

in Asia Minor, Syria, Persia, and eastward as far as Northern China.

Habitat: Stony hill-sides.

Note.—This species is subject to much variation.

FRENCH, OR RED-LEGGED, PARTRIDGE.

Caccabis rufa (*Linn.*).

Adult: Closely resembles *C. saxatilis*, but differs in having the feathers on lower throat, *chest* and hind neck *spotted with black, the spots* in front being very conspicuous, and *appearing like a broad fringe to the black gorget;* irides hazel-brown. Length 12·5 to 13·5 inches; culmen 0·65; wing 6 to 6·25; tail 3·65; tarsus 1·7.

Young in first plumage: Browner beneath than adults, and the black on the lower throat is not continuous.

Distribution: Inhabits Western Europe. Naturalised in south-eastern counties of England.

Habitat: Open cultivated country, commons or bushy hill-sides.

BARBARY PARTRIDGE.

Caccabis petrosa (*Gmel.*).

Adult Male: Top of head and nape deep chestnut, back and rump greyish-brown; wing-quills dark brown, the outer webs of most partly ochreous; four central tail-feathers coloured like the back, and obscurely vermiculated; remaining ones chestnut; sides of head, chin, and upper *throat light grey;* beneath, a broad *collar of deep chestnut, spotted with white;* rest of under parts much as in *C. rufa;* bill, legs and feet scarlet; irides hazel. Length 13 inches; culmen 0·9; wing 6 to 6·5; tail 3·75; tarsus 1·85.

Adult Female: Differs from the male in being a trifle smaller, in having a less extensive collar and being generally rather duller.

Distribution: Resident in Southern Europe and in Northern Africa.

Habitat: Open, uncultivated localities.

Genus PERDIX.

PARTRIDGE.

Perdix cinerea *Lath.*

Adult Male: Head and upper part of throat pale chestnut, shaded on crown and nape with brown, and streaked with buff; *general colour above brownish-grey, vermiculated with black*, and barred with buff and chestnut; wing-coverts and scapular-feathers with a distinct pale yellow median stripe; centre tail-feathers coloured like the back, the remaining ones chestnut; beneath grey, shading into white on the abdomen, and on breast and flanks closely and finely vermiculated with black; *abdomen with two very broad, deep chocolate marks, confluent on the upper half;* some of flank-feathers blotched with chestnut at the tips; bill, legs and feet pale grey; irides hazel. Length 12·5 inches; culmen 0·5; wing 6·5; tail 3·5; tarsus 1·6.

Adult Female: Closely resembles the male but is somewhat smaller; the upper parts are darker, and more marked with brown and buff; the chestnut on the head is paler, and the patches on the abdomen much smaller than in the male.

Young in first plumage: Lack the chestnut on head and throat, also the abdominal patches; the general colour much browner than adults.

Distribution: Inhabits Central Europe, the British Isles, Denmark and Germany, being found eastward as far as Western Siberia in the north and Persia in the south.

Habitat: Open cultivated country.

Genus COTURNIX.

QUAIL.

Coturnix communis *Bonnat.*

Adult Male: Crown and nape very dark brown, marked with reddish-buff, and with a central and two lateral lines of buff; *back*, scapulars, some of wing-coverts, and rump *light brown, marked with black* and dark brown, *and streaked with*

buff; wings brown, marked with buff, and darker brown; sides of neck buffy-white; cheeks pale brown; throat rufous, bounded by a double crescent of black; lower neck and breast pale rufous, shading into pale buff on the abdomen; flanks rufous, longitudinally striped with buff; bill, legs and feet yellowish-brown; irides brown. *Length 7 inches;* culmen 0·5; wing 4·5; tail 1·5; tarsus 1.

Adult Male (Winter): Cheeks and lower throat buff; flanks not so bright chestnut, nor so much spotted.

Adult Female: Closely resembles the male, but has the chin and throat pale buff, and breast and flanks thickly spotted with dark brown.

Distribution: Found throughout Europe (except in the far north), in Africa, and ranges through Asia to China.

Habitat: Frequents corn-fields and open country.

Note.—This species is very variable in colour, especially in males.

Family TETRAONIDÆ.

Genus LAGOPUS.

COMMON PTARMIGAN.

Lagopus mutus *Leach.*

Adult Male (Summer): Chin, under parts below the chest and *wings, pure white;* the primaries, with fore part of *shafts blackish; tail black,* the central feathers narrowly tipped with white; plumage otherwise almost black, finely vermiculated with buffish-brown, with a few white feathers or white spots about the neck and head; *lores black;* bill and claws dark brown; irides hazel-brown; above the eyes a scarlet wattle. *Length about 15 inches;* culmen 0·75; wing 7·5 to 8; tail 4·25; tarsus 1·3.

Adult Female (Summer): Head, neck, upper parts, breast and flanks blackish, barred and vermiculated with rusty-yellow, the feathers here and there tipped with white; under tail-coverts partly coloured like the back; plumage otherwise similar to the male.

Adult (Autumn): Dark upper parts, head, neck and chest pale grey, with black vermiculations.

Adult Male (Winter): Lores black; tail-feathers greyish-black, white at their bases and tips; shafts of primaries brown; plumage otherwise pure white. The female usually has the lores white.

Young in first plumage: Resemble the young of Red Grouse, but are greyer.

Distribution: Resident in Scotland, the Lofoden Islands, and on the higher mountain ranges of Scandinavia, Central and Southern Europe, as well as in the Urals, Altai Mountains, &c.

Habitat: Stony mountain-sides and tops, particularly among bilberry bushes.

RED GROUSE.

Lagopus scoticus (*Lath.*).

Adult Male: Above deep *chestnut-brown*, vermiculated and otherwise *marked with blackish; wing* and outer tail-*quills blackish-brown;* sides of head, throat and chest more rufous than rest of plumage, and less marked; rest of under parts dark chestnut-brown, finely vermiculated with blackish-brown; hair-like leg-feathers dull greyish; a few feathers at base of lower mandible, and some of feathers on central abdomen tipped with white; bill, dark horn-colour; claws pale brown; irides hazel-brown; above the eyes a distinct scarlet wattle or comb. *Length 15·5 to 16 inches;* culmen 0·65; wing 8·2 to 8·5; tail 4·25; tarsus 1·75.

Adult Female: Smaller than the male. Above much paler chestnut, and more spotted; beneath considerably paler and more of a yellowish-brown; comb smaller.

Young: Closely resemble adults according to the sex, but have more white feathers about the head and abdomen.

Distribution: Peculiar to Great Britain.

Habitat: Moorland districts.

ROCK PTARMIGAN.

Lagopus rupestris (*Gmel.*).

Adult Male (Summer): Upper parts, chest and sides of body *dark brown, barred and vermiculated with orange-brown*, or cinnamon, darker on crown; lores and tail-feathers blackish, the latter tipped with white; *rest of plumage white*, the shafts of primaries blackish-brown; bill, irides and claws dark brown; a comb over the eye light scarlet. *Length 14 inches;* culmen 0·6; wing 8; tail 4·75; tarsus 1·2.

Adult Female (Summer): Above vermiculated, barred, or otherwise marked with pale cinnamon-brown and black; inner wing-coverts similarly coloured to the back; fore parts beneath dull ochre-yellow, barred and vermiculated with black; lores not black; some of flank-feathers ochreous, barred or vermiculated with black; comb over the eye less conspicuous. Somewhat smaller than the male.

Adult Male (Autumn): Upper parts with each feather vermiculated with brownish-grey and brownish-black, in about equal proportions, giving it a generally brownish-grey tint; chin and upper throat chiefly white.

Adult Female (Autumn): Above much as in summer, but feathers of hind neck are barred with creamy-white and black; many of chin and upper throat-feathers white, neck and chest barred creamy-white and black; rest of under parts white, excepting for a few cinnamon and black feathers on flanks and abdomen.

Young (Autumn): Very nearly resemble their parents, according to the sex, but have the forehead chiefly white, and less indication of a comb over the eye; upper plumage largely mixed with white, much more so than adults at a corresponding date.

Adult (Winter): Indistinguishable from *L. mutus* at same season.

Distribution: Inhabits Iceland, Greenland, Arctic America, and possibly parts of Arctic Siberia.

Habitat: Birch scrub in valleys, where there is plenty of bilberry and *Dryas octopetala*, as well as on rocky, mountain sides.

Note.—The Spitzbergen Ptarmigan has been described under the name of *L. hemileucurus*, but as it chiefly differs from *L. rupestris* in being a trifle larger, and in having more white on the bases of the tail-feathers, it seems doubtful whether it is worthy of specific rank.

WILLOW-PTARMIGAN.

Lagopus albus (*Gmel.*).

Adult Male (Summer): Upper parts, neck, breast and sides of body *rich chestnut, most uniform on throat and chest;* back, neck and breast-feathers mottled and vermiculated with black; crown-feathers with black centres; rump, upper and under tail-coverts like the back; tail-feathers nearly black, tipped with white; wings, lower breast, centre of abdomen, and a *small patch* at bases of forks of lower mandible *white;* quill-shafts brownish towards tip; bill dark horn-colour; irides brown; above the eyes a scarlet comb. Length 15 inches; culmen 0·7; wing 8; tail 5; tarsus 1·5.

Adult Female (Summer): Altogether paler than the male, and somewhat smaller. Upper parts blotched with black, and vermiculated with black and buff, or pale rufous; head and neck more rufous; chest dull rufescent-buff, barred with black; chin yellowish.

Adults (Autumn): Have a large admixture of white feathers among the coloured ones and the central tail-feathers are white; no grey in the plumage either above or beneath.

Adults in Winter: May be distinguished from the other Ptarmigans by their larger size and white lores.

Distribution: Inhabits the northern portions of both Palearctic and Nearctic regions. Does not occur in Great Britain, the Faroes, or Iceland.

Habitat: Lowland regions, where there is plenty of undergrowth of birch or conifers.

Genus BONASA.

HAZEL-GROUSE.

Bonasa betulina (*Scop.*).

Adult Male: Upper parts *ashy-grey*, tinged with rufous, and *barred or vermiculated with black;* crown feathers long; lower back and rump clearer grey, and less marked with black; wings brown, externally margined with fulvous; scapulars rufescent, varied with black and white spotted; *tail grey*,

vermiculated with black, all the feathers except two central ones crossed by a *broad subterminal black band;* chin and *throat black, encircled by a white band*, which springs from base of upper mandible; a few feathers behind the eye white: feathers of breast and flanks brown, becoming rufous at their bases and broadly tipped with white; bases of abdominal feathers black; under tail-coverts variegated with brown and red, and tipped with white; bill blackish horn-colour; legs, feet and irides brown; eyebrows bare. *Length about 12·5 inches;* culmen 0·65; wing 6·5; tail 5; tarsus 1·25.

Adult Female: Slightly smaller and more rufous above: ear-coverts distinctly rufous; throat yellowish-white, slightly varied with black spots; eyebrows feathered.

Young: Upper parts paler grey; head clear brown mottled with black; throat pale fulvous, mottled with dusky brown: under parts generally shaded with fulvous; otherwise similar to the adult female.

Distribution: Found in the elevated regions of Northern and Central Europe and Northern Asia, ranging from the Pyrenees to Japan.

Habitat: Alpine regions where there is undergrowth of bushes or heather.

MENZBIER'S HAZEL-GROUSE.

Bonasa griseiventris *Menz.*

Adult: Ground colour throughout, both above and beneath distinctly cinereous, washed with brown on the crown, and irregularly with paler brown on the under parts; upper parts marked as in *B. betulina*, but not so boldly on the scapulars and wing-coverts; no white on upper parts except a few feathers behind the eyes; *dark sub-terminal tail-band, ill-defined and not conspicuous, as in B. betulina; none of the rectrices white-tipped;* under parts narrowly and closely barred with brown, most conspicuously so on the chest; chin feathers pure white: eyelid in male bare; bill, legs and feet as in *B. betulina*. *Length 13·5 inches;* culmen 0·75; wing 6·5; tail 5; tarsus 1.

Young: Unknown.

Distribution: Inhabits the extreme east of Russia, near the sources of the Petchora and Kama rivers.

Habitat: Probably similar to that of *B. betulina*.

Genus TETRAO.

BLACK GROUSE.

Tetrao tetrix *Linn.*

Adult Male: Plumage chiefly *glossy black*, shaded on scapulars and wing-coverts with brown; head, neck and rump glossed with purple; *wings brown, crossed by a broad white band;* axillaries and *under tail-coverts pure white;* some of latter longer than central rectrices; outer tail-feathers hooked outwards, the tail thus appearing lyre-shaped; above the eye a scarlet comb; bill, feet and claws nearly black; irides hazel-brown. *Length* (to end of longest rectrices) *20 to 23 inches;* culmen 1; wing 9·5 to 10; tail 7·5; tarsus 1·8.

Adult Female: General colour chestnut, shading into grey on wing-coverts, breast and under tail-coverts, throughout barred, blotched and vermiculated with black; under tail-coverts nearly white; bill, feet and claws dark brown; irides hazel. Considerably smaller than the male.

Young in first plumage: Resemble the adult female.

Young Male in Autumn: The head, wing-coverts, scapulars, and upper tail-coverts coloured much as in female, otherwise d ll black, with very little indication of the curved outer rectrices.

Distribution: Inhabits Northern Europe, including the British Islands, also some of the higher districts of Central and Southern Europe. Ranges eastward across Siberia to China.

Habitat: Moorlands and forests (especially coniferous).

GEORGIAN BLACK GROUSE.

Tetrao mlokosiewiczi (*Tacz.*).

Adult Male: *Axillaries* and some of under wing-coverts *white;* entire plumage *otherwise deep black*, glossed with deep green; quills and legs much browner; tail long, the outer feathers curved outwards as in male *T. tetrix*, but less decidedly, and more pointed; comb scarlet as in *T. tetrix;* bill, feet and

claws brown. Length 20 inches; culmen 1; *wing 7·9;* tail 9; tarsus 2·25.

Adult Female: Differs from female of *T. tetrix* in the following respects: "General coloration greyish, closely vermiculated with blackish-brown and rusty-brown, the upper parts being rather more rufous-brown, and the under parts rather less rufous; throat whiter, the markings being wider apart; quills dark brown, the primaries marbled on the outer web with light brown, and the secondaries rather boldly marked with blackish and light reddish, and tipped with white; tail long, almost square, blackish-brown, closely variegated with rufous and sandy-yellow; under parts closely vermiculated with blackish-brown on a greyish ground; centre of abdomen marked with black; under tail-coverts reddish, broadly barred with blackish and tipped with white. Culmen 1·05; wing 7·8; tail 6·5; tarsus 2·25" (Dresser).

Distribution: Apparently confined to the Caucasus.

Habitat: Elevated regions, covered with herbage, not found in the low country.

CAPERCAILLIE.

Tetrao urogallus *Linn.*

Adult Male: Prevailing colour *ashy-grey*, much darker on the head; *chin feathers elongated, black;* scapulars and wings chestnut-brown, finely vermiculated and speckled on all the upper parts with dusky; longest upper tail-coverts, and some of wing-coverts tipped with white; tail much rounded, black; breast glossed with dark green, rest of under parts blackish, speckled in parts with white; feathers of tarsi brown, and hair-like; bill greyish-white; feet and irides brown; bare skin above the eyes scarlet. *Length 34 to 36 inches;* culmen 2·5; wing 14·8 to 16; tail 11; tarsus 3.

Adult Female: Prevailing colour pale chestnut, darker and richer on the throat and chest, which are almost spotless; the feathers elsewhere barred, spotted or vermiculated with black, many having also white tips; wings brown, mottled with rufous; tail bright rufous, barred with black, and broadly tipped with white, as are also the secondaries and tail-coverts.

Young in first plumage: Resemble the adult female.

Males of the Year : Though in some respects resembling the adult male, retain the female plumage in parts, especially on the mantle, upper tail-coverts, breast and flanks.

Distribution : Inhabits the pine forests of Scandinavia, Central Europe, the Pyrenees and Carpathians. Found in Siberia as far east as Lake Baikal.

Habitat : Partial to fir forests, often at considerable elevation.

Genus TETRAOGALLUS.

CAUCASIAN SNOW-PARTRIDGE.

Tetraogallus caucasicus *(Pall.)*.

Adult Male : Crown, nape and hind neck ashy-grey ; chin and throat white, bordered laterally by a band of ashy-grey ; sides of neck also white ; upper parts generally greyish-black vermiculated (except on fore part of back) with buff ; wing-coverts and scapulars spotted with buff and fox-red ; central rectrices black, vermiculated with buffy-white ; remaining ones black, tipped with chestnut ; chest buffy-white, closely barred with black ; rest of under parts *very dark grey*, mottled with buffy-white, the flanks more slaty in tinge, each feather *broadly margined on either side with rufous, and externally with black ;* under tail-coverts white ; bill yellowish, browner towards tip ; legs orange-yellow ; irides dark brown. *Length 21 inches ;* culmen 1·2 ; wing 10·5 ; tail 7 ; tarsus 2·25.

Adult Female : Resembles the male, but is much duller and paler in colour ; crown and hind neck tinged with reddish-brown ; moustachial band reddish-brown.

Young : Closely resemble adult female, but are much greyer about the head and neck.

Distribution : Restricted entirely to the range of the Caucasus.

Habitat : High mountain ranges above the region of trees.

Family TURNICIDÆ.

Genus TURNIX.

ANDALUSIAN BUSH-QUAIL OR HEMIPODE.

Turnix sylvatica (*Desfont.*).

Adult Female: General colour above sandy-brown; on either side of crown a black and rufous longitudinal band; remaining feathers dark brown, tipped with rufous; feathers of back and scapulars and upper parts generally, finely pencilled with black, their centres marked with rufous; many of wing-coverts boldly spotted with black; wings dark brown, margined with pale brown; sides of head buffy-white, barred with brown; chin, *upper throat, and centre of abdomen cream-colour;* sides of neck, chest, *sides of body*, flanks, and under tail-coverts pale ferruginous, *boldly spotted with black;* bill, legs, feet and irides yellowish-brown. *Length 8 inches;* culmen 0·45; wing 3·7; tail 1·7; tarsus 1.

Male: Much smaller, otherwise similar.

Adult (Winter): Very similar, but duller and considerably whiter beneath, especially on the throat.

Young: "Resembles the adult in winter dress, but there is more white in the markings of the plumage, the under parts are white, and the markings on the sides of the neck and flanks are reduced to dark brown dashes or blotches" (Dresser).

Distribution: Found locally in Spain and Portugal, in Sicily and Northern Africa.

Habitat: Ground covered with thick herbage or rough grass: often not far from water.

Order GRALLÆ.

Family RALLIDÆ.

Genus RALLUS.

WATER-RAIL.

Rallus aquaticus *Linn.*

Adult Male: Crown and upper parts generally *fulvous-brown*, with a blackish centre to each of the feathers; quills dusky brown; tail-feathers dark brown, bordered with olive-brown; chin whitish; sides of head, neck and *under parts* to centre of abdomen uniform *slaty-grey: flanks black, transversely barred with white;* vent buff; some of under tail-coverts white. *Length 10 or 11 inches;* culmen 1·5; wing 4·7; tail 2; tarsus 1·5.

Adult Female: Slightly duller than the male, otherwise similar.

Young in first plumage: Above more olivaceous, chin and centre of throat nearly white, clouded with grey; breast duller than in adults, and mottled with dusky brown and buff; lower abdomen considerably marked with creamy-brown.

Distribution: Frequents the Western Palearctic region, south of the Arctic Circle, becoming more abundant further south. Found eastward into Central Asia.

Habitat: Marshes, reedy banks of rivers or streams.

Genus PORZANA.

SPOTTED CRAKE.

Porzana maruetta (*Leach*).

Adult Male: Upper parts olive-brown, with blackish centres

to the feathers and spotted or streaked with white; wings brown, with outer web of first primary white; lores brown; chin, throat, sides of head and *chest slaty-grey*, shaded with olive on chest and more or less *spotted with white*; abdomen white; *flanks brown*, conspicuously *barred with white;* under tail-coverts buff; bill yellow, orange at base; legs and feet olive-green; irides hazel. *Length 8·5 to 9 inches;* culmen 0·8; wing 4·7; tail 2; tarsus 1·3.

Adult Female: Slightly smaller, duller, and has more brown on the sides of the head and on flanks.

Young: "Have the sides of the head, the throat, and the abdomen much marked with white, and the spots are smaller and less defined, on a generally duller ground" (Saunders).

Distribution: Found in the Western Palearctic region except in the extreme north, inhabiting the southern portions in winter. Ranges eastward into Central Asia and India.

Habitat: Similar localities to that of *Rallus aquaticus*.

BAILLON'S CRAKE.

Porzana bailloni (*Vieill.*).

Adult Male: Above olive-brown, with black centres to the feathers of crown, nape, rump, centre of back, and *scapulars;* the two latter *with wing-coverts irregularly spotted with pure white;* outer edge of first primary white; *flanks*, vent and under tail-coverts *black*, pretty regularly *barred* across *with white;* sides of head and neck, and rest of under parts bluish-slate; bill olive; legs and feet dull brownish flesh-colour; irides red. *Length 6·5 to 7 inches;* culmen 0·6; wing 3·6; tail 2; tarsus 1.

Adult Female: Paler above than the male, ear-coverts and lores brown; under parts more tinged with brown.

Young in first plumage: Resemble the adult female, except that the under parts are greyish-white, and the breast marked with brown.

Distribution: Breeds in the marshes of Western Europe, and occurs thoughout the Mediterranean basin in winter. In Africa this Crake ranges as far south as Natal, and in Asia as far east as Japan; in winter being found southward into Borneo.

Habitat: Similar to that of *Rallus aquaticus*.

LITTLE CRAKE.

Porzana parva (*Scop.*).

Adul Male: Above olivaceous-brown, paler on the wing-coverts; feathers of *centre of back* obscurely marked with black and *with a few white spots;* wings clove-brown; *flank-feathers* grey; under tail-coverts black, or dark brown, barred with white: forehead, cheeks, sides of neck, and rest of under parts slate-grey; bill green, tinged with red at base; legs and feet green; irides red. *Length about 8 inches;* culmen 0·7; wing 4; tail 2·15; tarsus 1.

Acult Female: "Differs from the male in having the slate-grey confined to the forehead and eye-stripe; the general colour of the under parts being buff, shading into nearly white on the chin and throat, and into brown on the flanks, which are transversely barred with white" (Seebohm).

Young in first plumage: Superciliary region and under parts pale buffish-white, more barred or spotted with brown than the adult female. May be distinguished from the young of *P. bailloni* by the absence of white on the first primary.

Distribution: Breeds in Central Europe, Italy and the Caspian region, occurring also in other parts of Europe. Eastward as far as Scinde it is found on migration or as a winter visitant.

Habitat: Similar to that of *Rallus aquaticus.*

Genus CREX.

CORNCRAKE OR LAND-RAIL.

Crex pratensis *Bechst.*

Adult Male: Upper parts *pale brown, with dark brown centres* to the feathers; wing-quills reddish-brown, the coverts rufous; outer webs of first primary whitish; sides of head bluish-grey; band through the eye brown; chin, upper throat and abdomen white; rest of under parts sandy, tinged on lower throat and chest with grey and shading into rufous

on flanks and under tail-coverts, on which the feathers are barred and mottled with white; *axillaries chestnut;* bill, legs and feet flesh-colour; irides pale brown. *Length about 10 inches;* culmen 1; wing 5·8; tail 2; tarsus 1·5.

Adult Female: Slightly smaller and paler than the male; the grey of the sides of head and under parts not so distinct.

Young in first plumage: Have no grey on the under parts; cheeks mottled with pale brown.

Distribution: Summer visitant to Northern and Central Europe and Western-central Asia from Africa, where it occurs as far south as Cape Colony.

Habitat: Damp corn-fields and meadows.

Genus GALLINULA.

WATERHEN, OR MOORHEN.

Gallinula chloropus (*Linn.*).

Adult: *Head*, neck and upper part of back deep *slaty-grey; rest of upper parts deep olive-brown;* edge of the wing and under tail-coverts white, some of the latter tinged with buff; *flanks longitudinally banded with white;* a few feathers below the vent black; rest of under parts slate-grey, shading into brown on flanks; feathers of abdomen having white tips; bill and frontal plate scarlet, the former shading into yellow at tip; legs and feet green, irides hazel. Length 13 inches; culmen and frontal plate 1·5; wing 6·7; tail 3; tarsus 2.

Young in first plumage: Crown and nape, like rest of upper parts, olivaceous-brown; chin and upper throat white; under parts generally greyish-brown, most of the feathers having white tips; flanks tinged with olivaceous; frontal plate (which is smaller than in adult) and bill brown, the latter greenish towards tip.

Distribution: Found in temperate Europe, through Africa to Cape Colony and across Central Asia to Japan and the Philippines.

Habitat: Marshes or reedy margins of rivers.

Genus FULICA.

COOT.

Fulica atra *Linn.*

Adult: Head, neck and *under tail-coverts nearly black;* tips of secondaries whitish, rest of plumage slate-grey; bill flesh-colour at base; *frontal plate* and tip of bill *white;* legs and feet olive, shading into orange above the tarsal joint; irides crimson. *Length 15 to 16 inches;* culmen and frontal plate 2 to 2·5; wing 8·25 to 8·75; tail 2·5; tarsus 2·25.

Young in first plumage: Are paler both above and beneath; most of feathers on chin, throat, breast and abdomen with greyish-white tips; frontal plate less developed.

Distribution: Generally distributed over the Palearctic region, except in the extreme north. Abundant in Northern Africa and also in parts of the Oriental region in winter.

Habitat: Large inland lakes, reedy rivers and extensive ponds.

CRESTED COOT.

Fulica cristata *Gmel.*

Adult: "Entire head and neck sooty-black; upper parts generally slaty-black; wings and tail brownish-black, *without any white* on them; under parts paler than the upper parts, being more of a dark greyish-slate; beak and frontal shield white, the latter terminating in *two conspicuous red knobs;* legs ashy-white; iris reddish-brown. Total length about 16 inches; culmen 1·3; gape 1·4; wing 8; tail 2·6; tarsus 2·55" (Dresser).

Young: "Much paler than the adult; the feathers on the under parts are tipped with greyish, as are also those on the chin and neck; the frontal shield is but little developed, the knobs are very small and the bill is evidently dark in colour and not white" (Dresser).

Distribution: Inhabits Africa, but likewise frequents parts of Spain and Portugal, some of the Mediterranean islands,

and is of casual occurrence in other countries of Southern Europe.

Habitat: Similar to that of *F. atra*.

Genus PORPHYRIO.

PURPLE GALLINULE.

Porphyrio cæruleus (*Vand.*).

Adult: "Crown, hind neck and *entire upper parts deep rich blue;* quills on the inner web and the tail-feathers black, with a slight bluish tinge; sides of the head, chin, throat and upper breast rich turquoise-blue, the remainder of the under parts blackish-blue, except the under tail-coverts, which are pure white; frontal plate and bill bright sealing-wax red; iris lake-red; legs flesh-red. Total length about 18 inches; gape 1·7; *wing 9·5;* tail 4·1; tarsus 3·5; middle toe with claw 4·8; claw 1" (Dresser).

Young: "Crown sooty blackish-blue, hind neck dark slaty-grey with a bluish tinge; upper parts of a duller blue than the adult, the rump slaty-blackish; sides of head dull ashy-grey with a wash of blue; chin and upper throat ashy-white; rest of the under parts dull bluish-slate, the feathers broadly tipped with ashy-grey, the centre of the abdomen whiter, and the under tail-coverts pure white" (Dresser).

Distribution: Inhabits Southern Europe and Northern Africa, of casual occurrence only in Central or Northern Europe. Ranges eastward into Persia.

Habitat: Fresh water where there is plenty of dense vegetation.

Family GRUIDÆ.

Genus GRUS.

COMMON CRANE.

Grus communis *Bechst.*

Adult: Feathers of forehead and lores, hair-like, black; crown naked and red; nape, chin and fore part of throat

greyish-black; quills black; innermost secondaries elongated and *gracefully plumed;* the tips blackish; rest of plumage pale *slaty-grey;* bill olive-green, paler towards tip and becoming flesh-coloured at base beneath. *Length 45 or 46 inches;* culmen 4·7; wing 24 to 26; tail 8; tarsus 9·75 to 10.

Young in first plumage: "Have the parts of the head which are naked in the adult covered with feathers, and the black and white on the head and upper part of the neck are replaced by brown and grey; the plumes are much smaller and less curled" (Seebohm).

Distribution: A summer visitor to Northern Europe and Asia, migrating southward in autumn to Northern Africa and India.

Habitat: Marshy plains.

DEMOISELLE CRANE.

Grus virgo (*Linn.*).

Adult Male: Sides of head, chin, throat, fore part of neck, quills, and tips of innermost secondaries black, the latter feathers elongated beyond the tail and *straight;* behind the eye *a tuft of elongated white feathers;* rest of plumage ashy-grey; bill olive-brown, yellowish towards tip; legs and feet blackish; irides deep red. *Length about 3 feet;* culmen 2·5 inches; wing 20 to 25; tarsus 7.

Adult Female: Resembles the male, but is duller, and has the white tufts on the head less developed.

Young in first plumage: Grey, with greyish-white ear-tufts, and a brown patch in the middle of the neck; innermost secondaries not elongated.

Distribution: Inhabits parts of Southern Europe, Africa and Asia, of rare occurrence as far north as Scandinavia and the British Isles.

Habitat: Margins of rivers, lakes or ponds.

SIBERIAN CRANE.

Grus leucogeranus *Pall.*

Adult: *Plumage white, except primaries which are black;*

innermost secondaries elongated ; bill umber-brown ; fore parts of crown and cheeks bare, dull red ; legs and feet dull pink ; irides pale yellow. *Length 52 inches ;* culmen 7·4 ; wing 23·4 ; tail 8 ; tarsus 10·9. Female slightly less.

Young : General colour rufous-buff or sandy-buff, clearest and deepest buff on cheeks and crown and on chin very pale ; primaries and greater coverts black ; legs paler than in adults.

Distribution : Inhabits Siberia in Asia ranging southward to India in winter. Not unfrequently found on passage in the east of Russia.

Habitat : Shallow ponds or lakes.

Order LIMICOLÆ.

Family OTIDÆ.

Genus Otis.

GREAT BUSTARD.

Otis tarda *Linn.*

Adult Male: *Head slaty-grey;* a long moustachial-tuft on either side springing from base of lower mandible; throat and upper part of neck white; lower neck chestnut-buff; on centre of crown a longitudinal black streak; *back*, scapulars, lesser wing-coverts, rump and tail-coverts *yellowish or reddish-buff, conspicuously barred* and otherwise marked *with black;* greater wing-coverts and some of secondaries grey; primaries brownish with white bases; under parts below chest white; bill slaty-grey, darker at tip; legs and feet brown; irides dark brown. Length about 45 inches; culmen 2·5; *wing 24·5 to 26;* tail 11; tarsus 6·2.

Adult Female: Much smaller than the male, otherwise very similar in general appearance, but lacks the long feathers at side of head, and the chestnut-buff collar.

Young in first plumage: "Of both sexes resemble adult female, but have the white wing-coverts broadly barred with black, and three instead of one black band across all the outer tail-feathers; the white both of the upper and under parts is also suffused with chestnut, and mottled with grey. Many of the primaries are mottled with white, and all are tipped with white, and some of the feathers of the crown are coloured like the back" (Seebohm).

Distribution: Found in Central and Southern Europe, rarely in Northern Africa, and eastward across Central Asia to China and Japan. Used to breed abundantly in Great Britain, Denmark, and Southern Sweden.

Habitat: Secluded grassy plains; open, cultivated country.

HOUBARA BUSTARD.

Otis undulata (*Jacq.*).

Adult Male: "A long *crest* of *white* feathers, and a thick ruff of long narrow ones on each side of the neck, the upper ones black, and the lower ones white; the whole of the upper plumage is sandy-brown, each feather marked with zigzag bars of dusky colour; primaries white at their base, and dark brown towards their ends; tail barred with grey and black; throat white, freckled with brown; some sandy-brown feathers on the chest: remainder of the under surface of the body white, beak and legs olive-green; irides brown" (Shelley). Length about 26 inches; culmen 2; *wing 14·25;* tail 8·5; tarsus 4.

Adult Female: Differs from the male in being smaller, and in having the crest and ruff less perfectly developed.

Young Birds: Appear to be very similar to the adult female.

Distribution: Found throughout a large proportion of Africa. Of unfrequent occurrence in Southern Europe.

Habitat: Vast sandy plains or stony mountain sides.

MACQUEEN'S BUSTARD.

Otis macqueeni *J. E. Gray.*

Adult Male: "In general character of plumage resembling *Otis undulata*, but differing as follows: the crest is scarcely as full and most of the feathers are *black on the terminal portion;* the back is quite differently marked from what it is in *Otis undulata*, being finely *vermiculated* with black on rufescent ochreous ground, the markings here and there collecting so as to form irregular blotches; tail marked with only three blue bars, the basal portion being pale ochreous-rufescent; under parts as in *Otis undulata*, but the elongated feathers on the lower throat are blue-grey, and not white; soft parts as in *O. undulata*. Total length about 26 inches; culmen 1·7; *wing 15·4;* tail 8·6; tarsus 3·9" (Dresser).

Adult Female: "Differs in being rather smaller in size and in having the crest and ruff less developed" (Dresser).

Distribution: A rare straggler from Northern India and Mesopotamia on migration. Has been recorded from various countries of Europe, even as far as Finland and Great Britain.

Habitat: Similar to that of *Otis undulata*.

LITTLE BUSTARD.

Otis tetrax *Linn.*

Adult Male: Much resembles *O. tarda* in coloration of upper parts, but there is less chestnut apparent, and the markings are less bold; rectrices and crown feathers coloured like the back; chin, upper throat and ear-coverts pale slate-grey; rest of under parts white, with *two broad black bands across the chest;* bill brown, darker at tip; legs and feet dull yellow; irides golden-yellow. *Length 16 to 17 inches;* culmen 0·8; wing 9·5 to 9·75; tail 4·5; tarsus 2·25.

Adult Female: Above lighter than the male, with bolder markings; neck and sides of head sandy-brown, striped with black; the breast and sides also marked with black.

Adult Male (Winter): Differs little from the adult female, having lost the black and white chest bands, but the markings on the back are much finer.

Young in first plumage: Resemble adult females.

Distribution: Breeds in Western and South-eastern Europe, Sicily, Sardinia and parts of Russia; elsewhere in Europe it chiefly occurs on migration. Breeds also in North-western Africa, Northern Persia, and in parts of Turkistan; wintering in the valley of the Indus.

Habitat: Extensive plains, or "steppe" country.

Genus ŒDICNEMUS.

NORFOLK PLOVER, OR THICK-KNEE.

Œdicnemus scolopax (*Gmel.*).

Adult: Upper parts greyish-brown, the feathers having paler margins and *dark brown centres;* wing-quills black, the *first two primaries banded with white; a light band across the*

wing between greater and lesser coverts; tail-feathers very pale brown, mottled and variegated with darker brown, and tipped (except central pair) with black; outermost rectrices white at bases; under parts whitish, shading into buff at the vent; moustachial region, *chest* and sides of body conspicuously *streaked with dark brown;* bill pale yellow, or greenish-yellow at base, apical half black; legs, feet and irides yellow. *Length about 13·5 inches;* culmen 1·4; wing 9; tail 4·5; tarsus 2·75.

Adult (Winter): Resembles the summer plumage in general arrangements of colour, but the markings throughout are clearer, bolder, and the general effect brighter.

Young in first plumage: Very nearly resemble adults in summer, but are smaller, somewhat duller above, the marking both above and beneath less conspicuous, and the central rectrices barred to their bases.

Distribution: Inhabits temperate Europe, Northern Africa and South-western Asia.

Habitat: Barren plains, heaths, and open corn-land.

Family GLAREOLIDÆ.

Genus GLAREOLA.

PRATINCOLE.

Glareola pratincola *Linn.*

Adult: *Above olive-brown*, shaded on head and nape with sandy-buff; wing-quills and greater coverts blackish; tail-coverts and tail white, the latter having a broad dark brown terminal band; chin and throat buff, encircled by a narrow black band; lores black; chest pale sandy-brown, laterally clouded with brown; *axillaries and under wing-coverts chestnut;* rest of under parts white; bill black, reddish at base; legs, feet and irides dark brown. *Length 9 to 10 inches;* culmen 0·5; wing 7·5 to 7·7; tail 4·75; tarsus 1·2.

Young in first plumage: Feathers of upper parts subterminally marked with blackish-brown, and many white tipped; tail-feathers margined at tips with whitish, and outer ones much shorter than in adults; under parts dirty buffish-white, becoming purer white towards vent; throat-ring only apparent

in the form of streaks of dark brown; chest obscurely mottled with brown.

Birds of the year: Have obscure buff margins to feathers of upper parts, and a streaked throat.

Distribution: Summer visitant to Southern and South-western Europe and Central Asia, wintering in Africa as far south as Natal. Occasionally wanders northward to Great Britain on migration.

Habitat: Sandy "steppe" country, marshes, and the proximity of lakes and rivers.

NORDMANN'S PRATINCOLE.

Glareola melanoptera *Nordm.*

Adult: Differs from *G. pratincola* chiefly in being somewhat darker in general tint, and in having *black axillaries, and under wing-coverts.* Length 9 to 10 inches; culmen 0·5; wing 7·75; tail 4·3; tarsus 1·5.

Young in first plumage: Have the axillaries black, margined with chestnut.

Birds of the year: "Resemble the adult, excepting that the feathers on the upper parts are slightly edged with fulvous, and the black line enclosing the throat of the adult is wanting, the throat being dirty ochre-yellow, marked with black, and the breast is marked with blackish" (Dresser).

Distribution: Occurs in summer in South-western Asia, and in the extreme south-eastern portions of Europe, wintering in Southern Africa.

Habitat: Similar localities to *G. pratincola.*

Family CHARADRIIDÆ.

Genus CURSORIUS.

CREAM-COLOURED COURSER.

Cursorius gallicus (*Gmel.*).

Adult: *Crown slate-grey; nape* and a line to the eye *black;* superciliary stripe, extending to hind neck, white; upper parts generally sandy-buff; beneath paler buff, shading into white

on throat and under tail-coverts; primaries and *under wing feathers nearly black;* secondaries dark brown, with buff outer webs; tail-feathers, except central pair, white, tipped and subterminally banded with black; bill black, paler at base beneath; legs and feet greyish-brown; irides hazel-brown. Length about 10 inches; culmen 1; wing 6 to 6·25; tail 2·6; tarsus 2·1.

Immature Birds: Black on the head faintly indicated, or entirely wanting; feathers of both upper and under parts more or less mottled with brown.

Distribution: Inhabits the Canary Islands, Africa north of the Sahara, and South-western Asia, occurring casually only north of the Mediterranean.

Habitat: Dry sandy plains.

Genus CHARADRIUS.

GOLDEN PLOVER.

Charadrius pluvialis *Linn.*

Adult Male (Summer): *Above brownish-black*, copiously *spotted with yellow;* primaries blackish; chin, throat, breast and abdomen black, bordered on sides of neck with white; *axillaries* and under tail-coverts *white;* bill, legs and feet nearly black; *toes three in number;* irides dark hazel-brown. Length about 10·5 inches; culmen 1; wing 7·5; tail 3; tarsus 1·6.

Adult Female (Summer): Like the male, but has usually less black upon the under parts.

Adults (in change of plumage): Have the under parts black, mixed with white feathers.

Adult (Winter): Chin and abdomen white, chest and breast shaded and obscurely mottled with brown, or greyish-brown.

Young in Autumn: Differ from adults in winter by being more distinctly spotted beneath, and in having the abdomen also shaded with greyish-brown, and mottled with brown.

Distribution: Inhabits Northern Europe, and is found also in Western Asia as far as the Yenesei. Passes through Southern Europe to the Mediterranean region and to Northern Africa in autumn; some occurring as far south as Cape Colony in winter.

Habitat: High mountain or moorland districts, frequenting the sea-coast in winter.

Note.—The Eastern Golden Plover, *C. fulvus*, distinguished by its smoky axillary plumes, has occurred sometimes in Europe, including twice in the British Isles.

Genus SQUATAROLA.

GREY PLOVER.

Squatarola helvetica (*Linn.*).

Adult Male (Summer): Forehead, superciliary stripe, sides of neck, thighs, vent, upper and under tail-coverts white, or nearly so; general colour of upper parts including tail, *white barred with black and brown;* wing-quills dark brown, marked with white on inner webs; sides of head, most of under parts and *axillaries black;* bill, legs, feet and a *small hind toe* black; irides hazel. Length about 10·5 inches; culmen 1·2; wing 7·3; tail 2·75; tarsus 1·7.

Adult Female (Summer): Back bars much browner; white parts clouded and mottled with brown, under parts browner.

Adult after autumn moult: "Upper parts of the male are brown narrowly barred with white, whilst the under parts are white streaked on the sides of the neck and breast and on the flanks with brown. In the female the white bars of the head and back are reduced to obscure pale ends to the feathers, and the streaks on the under parts are more abundant and less clearly defined" (Seebohm).

Young in first plumage: Above dark brown, spotted with yellow; under parts very similar to adults in winter, but more suffused with buff, and more broadly and copiously streaked. In this plumage they somewhat resemble the Golden Plover, but may easily be distinguished by the black axillaries, which are present in *Squatarola* at all ages.

Distribution: Breeds in the extreme north of Siberia, occurring southward on migration through a great part of Asia, through Europe to northern half of Africa, and is also found in North America.

Habitat: Similar to that of *Charadrius pluvialis*, but is more partial to the sea-coast.

Genus ÆGIALITIS.

RINGED PLOVER OR RINGED DOTTEREL.

Ægialitis hiaticula (*Linn.*).

Adult (Summer): Forehead, space between the eye and bill and sides of face black; forehead and a patch behind the eye white; chin, throat and a broad ring round the neck white; across the chest *a broad black band*, narrowing at the sides and meeting behind below the white collar; rest of under parts white: crown and upper parts generally pale hair-brown; primaries dark brown; the *wing* when opened *showing a white bar across it;* bill orange at base, black at tip; legs and feet orange; claws black; irides brown. Length about 7 inches; culmen 0·6; *wing 5;* tail 2·4; tarsus 1.

The very old female is scarcely distinguishable from the male.

Young in first plumage: Have those parts which are black in the adult, coloured brown like the back; most of feathers of upper parts with very narrow pale terminal margins; bill uniform black.

Distribution: Breeds in the north of Europe and Asia, ranging southward over Southern Europe and Africa on migration, and in Asia sometimes occurs in winter as far south as the north of India.

Habitat: Shingly beaches, mud flats, margins of lakes, or marshes inland.

Note.—The Ringed Plovers inhabiting and passing through the British Islands and the Western European coasts appear to constitute a smaller race than those found elsewhere.

LITTLE RINGED PLOVER.

Ægialitis curonica (*Gmel.*).

Adult: Resembles *Æ. hiaticula*, but "*the white on the primaries is confined to the shaft of the first primary;* the yellow on the bill is confined to the base of the lower mandible, and the legs and feet are dull yellow instead of orange-yellow;

orbits yellow; irides dark hazel (Seebohm). Length 6 inches; culmen 0·45; *wing 4·5;* tail 2·25; tarsus 0·9.

"The changes of plumage dependent upon age, sex and season resemble those of the *Ringed Plover*" (Seebohm).

Distribution: Found in summer throughout most of Europe south of the Arctic Circle and in the Eastern Palearctic region, occurring in winter in most parts of the Oriental region and on both east and west coasts of Africa.

Habitat: Banks of rivers and other inland waters.

KENTISH PLOVER.

Ægialitis cantiana (*Lath.*).

Adult: Above pale hair-brown, shading into buff on hind neck and crown; forehead, a broad streak over each eye, a ring round the neck, and under parts white; fore part of crown, lores, a *patch* behind the eye, and one *on either side of chest black;* primaries dusky brown, with white shafts except at tips; secondaries paler, and more or less edged with white; *bill*, legs and feet *black;* irides dark brown. Length about 6 inches; culmen 0·65; wing 4; tail 1·75; tarsus 1·1.

Adult Female: "The parts which are black in the male are brown, and the hind head and nape have very slight traces of buff" (Seebohm).

Adults (Winter): Closely resemble the adult female in summer dress.

Young in first plumage: Most of the brown feathers have broad buff margins.

Distribution: Found on the temperate Palearctic coasts during summer, wintering in Africa, India and Southern China.

Habitat: The sea-coast or salt marshes.

Genus EUDROMIAS.

DOTTEREL.

Eudromias morinellus (*Linn.*).

Adult Female (Summer): Crown- and nape-feathers black, mottled on forehead with white; superciliary stripe

white, extending far behind the eye, and bordering the black of the nape; general colour of upper parts pale hair-brown, the lower back- and wing-feathers (except primaries) bordered with ochreous-buff; primaries darker brown, the shaft of first white; chin and upper throat white; lower throat pale hair-brown, with some blackish marks between; across the chest a white band, bordered above by black; *breast* and flanks rich *rufous; centre of abdomen black;* under tail-coverts white; *axillaries grey;* bill and claws black; legs and feet dull yellowish-brown; irides hazel-brown. Length about 9 inches; *culmen 0·6;* wing 6; tail 2·8; tarsus 1·4.

Adult Male: Very similar in general appearance, but somewhat smaller and less richly marked, especially on the under parts.

Young in first plumage: Upper parts dull brown, the scapular feathers and innermost secondaries conspicuously margined with buff; under parts strongly tinged with buff, with dull brown centres to the breast-feathers, and slight indication only of the black on abdomen.

Distribution: Widely distributed through Europe during the summer, wintering in Africa north of the Equator. Occurs in Western-central Asia on migration.

Habitat: Found during the breeding season on high moors or mountain tops, retreating in winter to the lower country, often to the sea-coast.

Genus VANELLUS.

SOCIABLE PLOVER.

Vanellus gregarius (*Pall*).

Adult: Forehead, cheeks and chin pale buff; superciliary stripe white; top of the head and a streak from the gape, through the eye, black; back of the neck, back, scapulars, and wing-coverts stone-grey; primaries black, *the shortest ones more or less white on the inner webs;* secondaries and tail white, central rectrices banded with black towards the end; throat sandy-brown, becoming greyer on the chest, and shading into black on the abdomen; lower abdomen and vent chestnut; thighs and under tail-coverts white; bill, legs and feet black;

irides dark brown. *Length 12 to 13 inches;* culmen 1·1; wing 8; tail 3·5; tarsus 2·2.

The female is slightly duller than the male.

Young: Generally duller than the adults. The black on crown and through the eye much browner; black and chestnut on abdomen wanting. May be most easily distinguished by its black shortest primaries, with white inner margins.

Distribution: Breeds on the steppes of South-eastern Russia, and Western-central Asia, wintering in India and North-eastern Africa.

Habitat: Very similar to that of the Lapwing.

LAPWING, GREEN PLOVER OR PEEWIT.

Vanellus vulgaris *Bechst.*

N.B. This species appears to have rounded wings.

Adult Male (Summer): Crown, crest, throat, chest and primaries black, the latter with a slight purplish tinge, and the outermost ones tipped with dirty whitish; feathers above and behind the eye, sides of throat, breast and abdomen white; *back*, scapulars and wing-coverts *metallic-green or purple; upper tail-coverts pale chestnut;* basal half of tail-feathers white; upper ones chiefly white; the rest having the anterior half black, with pale tips; under tail-coverts rufescent-buff; bill black, legs and feet reddish-brown; irides dark brown. *Length 13 inches;* culmen 1·1; wing 8·8 to 9·25; tail 4·75; tarsus 1·8.

Adult Female: Somewhat paler than the male, the black crown duller, and on throat not so extensive and mixed with white; the wing-coverts greener, crest shorter.

Young in first plumage: Lack the black on throat, have very short crests, and some of back- and scapular-feathers tipped with buff; sides of head washed with buff; outermost rectrices entirely white.

Distribution: Summer visitant to the northern and central portions of the Palearctic region; resident in the British Isles and some other North European countries. Found in winter as far south as Northern Africa and Northern India.

Habitat: Elevated moorland, damp pastures, or swampy plains.

Genus STREPSILAS.

TURNSTONE.

Strepsilas interpres (*Linn*).

Adult Male (Summer): Most of head, *lower part of back* and under parts below the chest *white;* from the forehead, through the eye passes a black band, joining broad malar band beneath; entire chest and sides of upper neck black; crown-feathers black, margined with white; hind neck chiefly white; *mantle and scapulars black, mixed with chestnut;* wings dark brown, varied with pale chestnut and blackish; greater coverts white tipped; upper tail-coverts black and white; tail white, banded towards the tip with black; bill nearly black; legs and feet orange; irides dark brown. *Length 9 inches;* culmen 0·8; wing 5·8 to 6; tail 2·4; tarsus 1.

Adult Female: Similar, but the black portions of the plumage are duller; the white on head and neck suffused with brown; the chestnut on the back paler.

Adult (Winter): Differs from the summer plumage in lacking the bright chestnut; upper parts blackish-brown, the black on the head and across the chest somewhat obscured by pale margins to the feathers.

Young in first plumage: Very like adults in winter, but paler above; upper parts generally dull brown, most of the feathers margined with pale yellowish, and on the wing-coverts with reddish-buff; chest variegated with dull brown, and blackish on the sides; legs and feet pale orange.

Distribution: Breeds in Iceland, on the Scandinavian and Baltic islands, and on the Northern Asiatic and American coasts. Migrates southward in autumn to Polynesia, Africa and South America.

Habitat: Shingly sea-beach, or marine mud flats.

Genus HÆMATOPUS.

OYSTERCATCHER.

Hæmatopus ostralegus *Linn.*

Adult: *Lower part of back*, rump, upper tail-coverts, basal

half of tail-feathers, a broad band across the wings, entire *under parts below the chest*, and under wing-feathers *white;* primaries marked on inner webs with white; *plumage otherwise black;* bill orange, deeper towards the base; legs and feet purplish flesh-colour; irides crimson. *Length about 16 inches;* culmen 2·75; wing 9·5 to 9·75; tail 4; tarsus 1·8.

Adults (Winter): Similar, but have white round the front and sides of the neck; bill browner towards the tip.

Young in first plumage: "The greater wing-coverts, innermost secondaries, and scapulars have pale buff margins, the longest upper tail-coverts are barred with buff and black at the tip, and, as in adult summer plumage, there is no white on the throat" (Seebohm).

Distribution: Summer visitant to most European coasts (resident in some northern countries) and to a few inland waters, also to Western Siberia. Occurs during winter as far south in Africa as Senegambia and Mozambique, and in Asia to Ceylon and Burmah.

Habitat: The margins of rivers and lakes, or the sea-coast.

Family SCOLOPACIDÆ.

Genus RECURVIROSTRA.

AVOCET.

Recurvirostra avocetta *Linn.*

Adult: Forehead, *crown*, back of neck, some of scapulars, lesser wing-coverts, primaries and *some of innermost secondaries black;* plumage otherwise white; *bill (slender and recurved)* black, legs and feet bluish-grey; irides reddish-brown. Length nearly 18 inches; culmen 3·25; wing 8·5; tail 3; tarsus 3·6.

Young in first plumage: Black parts brown, many of the feathers having pale rufous margins, white parts likewise suffused with brown.

Distribution: Inhabits the central and southern portions of the Palearctic region, breeding as far north as Denmark, migrating southward in autumn to Ceylon in Asia and Cape Colony in Africa.

Habitat: The sea-coast, shores of lagoons, or mud flats.

Genus HIMANTOPUS.

BLACK-WINGED STILT.

Himantopus candidus *Bonnat.*

Adult Male : *Crown, nape and upper surface of body and wings black*, glossed on back with green ; upper tail-coverts and tail grey, plumage otherwise pure white, with an evanescent pink tinge on the breast ; *bill (straight)* and claws black ; legs and feet rosy-pink ; irides crimson. *Length 13 to 13·5 inches :* culmen 2·5 ; wing 9·5 to 9·8 ; tail 3 ; tarsus 4·5 ; bare part of tibia 3·3. Very old males have pure white heads and necks.

Adult Female : Similar, but back distinctly brownish, and not glossed with green.

Young : "Have the feathers of the back and wings brown, edged with white, and more dark feathers about the back of the head ; the legs orange" (Saunders).

Distribution : Breeds in Ceylon, India and in south-western portions of the Palearctic region, also in some parts of Southern Europe. Winter visitant to Eastern Asia and Africa, in the country also a resident. Of casual occurrence in north of Europe.

Habitat : Sea-shore, salt marshes, or borders of inland lakes, etc.

Genus PHALAROPUS.

GREY PHALAROPE.

Phalaropus fulicarius *Linn.*

Adult Female : Forehead dusky grey, crown black, fore part of back, scapulars and inner secondaries black, margined with light red ; wing-coverts and quills greyish-black, the former with the secondaries tipped with white ; rump greyish, streaked with blackish ; tail deep grey, dusky towards tip ; *under parts chestnut ; bill flat*, broader at tip, where it is blackish, otherwise yellow ; legs and feet olive-brown ; irides dark brown. Length about 8·5 inches ; culmen 0·8 ; wing 5·35 ; *tail (graduated) 2·75 ;* tarsus 0·75. Male smaller and not so brightly coloured.

Adult (Winter): Feathers round the eye, ear-coverts and back of head dusky, *back* and scapulars *uniform pearl-grey;* secondaries, greater wing-coverts and tail-feathers dark grey, margined with white; primaries nearly black; *plumage otherwise white;* bill black, paler at base beneath; legs and feet yellow.

Young in first plumage: "Closely resemble on the under parts adults in winter plumage, but the colour of the upper parts is very similar to that of the male in summer plumage" (Seebohm).

Distribution: Breeds in the circumpolar regions of both Eastern and Western Hemispheres, migrating southward for winter. It occurs as far south as Scinde, Northern Africa, and Central America.

Habitat: The sea-coast, or inland sheets of water.

RED-NECKED PHALAROPE.

Phalaropus hyperboreus (*Linn.*).

Adult Female: Crown, sides of head, nape, hind neck, and upper parts generally deep slate-grey, becoming blackish-brown on the wings and central rectrices: the former crossed by a white band; back and scapulars broadly marked with pale chestnut; *front and sides of neck chestnut*, bordered below by slaty-grey; sides of chest slaty-grey; a patch over the eye and under parts otherwise white, marked on flanks with grey; *bill slender* and tapering, black; legs and feet greyish; irides brown. Length about 7 inches; culmen 0·8; *wing 4·3;* tarsus 0·7.

Adult Male: Smaller, browner above, with paler chestnut throat and back markings; sides of face greyish-brown, tinged with red, and showing more white about the eye.

Adult (Winter): "The chestnut and grey bands across the neck disappear, as well as the chestnut on the back and scapulars; and all the slate-grey and brown feathers of the upper parts have white edges, which on the head almost obscure the dark bases, except on the upper ear-coverts" (Seebohm).

Young in first plumage: "Are suffused with brown on the breast, and have the feathers on the forehead, mantle, scapulars, innermost secondaries, upper tail-coverts and tail dark brown margined with chestnut" (Seebohm).

Distribution: Breeds in the circumpolar regions of both hemispheres, migrating southward in autumn. Does not occur very far south in Europe, but reaches Northern India, and frequents the east coast of Asia down to New Guinea. In the Western Hemisphere it ranges to Central America.

Habitat: More partial to marshes inland than *P. fulicarius*.

Genus SCOLOPAX.

WOODCOCK.

Scolopax rusticula *Linn.*

Adult: Fore part of head dull greyish-brown, hinder crown and nape rufous, crossed by four broad black bands; chin and upper throat white, spotted on sides with brown; from eye to gape a broad blackish-brown band; back and scapulars variegated with rufous-brown and black and conspicuously spotted with pale grey or yellowish; feathers of rump and upper tail-coverts rufous-brown, with pale tips and vermiculated with brown; tail-feathers blackish, with grey tips on the upper surface and *silvery-white tips beneath*, their outer webs spotted with chestnut; wing-quills dusky, *barred with chestnut; under parts* greyish-buff, narrowly *barred with brown* and marked on sides of neck with chestnut; bill dull flesh-colour, dark brown at tip; legs and feet dull flesh-colour; irides dark brown. *Length about 14 inches;* culmen 2·5; wing 7·5 to 8; tail 3·3; tarsus 1·4.

Young: Closely resemble adults, but have the forehead more buff in tint and the chestnut spots on the outer margins of the tail-feathers are lengthened into bars reaching the shaft.

Distribution: Breeds in the temperate portions of the Palearctic region, migrating southward in autumn to Northern Africa, India and Ceylon; of very rare occurrence on the North American coasts.

Habitat: Dense woods and forests, both deciduous and evergreen.

Genus GALLINAGO.

GREAT OR DOUBLE SNIPE.

Gallinago major (*Gmel.*).

Adult: Chin and sides of head whitish, speckled with brown; hinder crown and neck buffish, marked with brown; on either side of crown a band of blackish-brown, with a whitish band between; general colour of upper parts brown, black and chestnut; outermost scapular and mantle-feathers conspicuously margined with buff; quills brown; secondaries and median wing-coverts broadly tipped with white; *tail-feathers (sixteen)* chestnut, mottled with black, white-tipped and black at bases; *outermost rectrices chiefly white;* neck and breast buff; closely marked with blackish-brown; rest of under parts white, tinged on abdomen and flanks with buff, and barred more or less conspicuously with brown; bill pale brown, darker at tip; legs, feet and irides brown. Length 11 to 12·5 inches; culmen 2·4; wing 5·5; tarsus 1·5.

Young in first plumage: Very nearly resemble adults, but have the outermost tail-feathers subterminally barred with brown.

Distribution: Inhabits Holland, North Germany, the north-east of Europe, and in Northern-central Asia, migrating southward in autumn, but not recorded from India or China; of casual occurrence in England.

Habitat: Peaty swamps, moist meadows, &c.

COMMON SNIPE.

Gallinago cœlestis (*Frenz.*).

Adult: Differs from *G. major* in being smaller; in having the secondaries only tipped with white and the *outermost tail-feathers pale chestnut buff, tipped with white and subterminally barred with blackish;* a broad patch on the lores dark brown; bill pale brown at base, dark brown at tip; legs, feet and claws brown; irides hazel. Length 10 to 11·5 inches; culmen 2·8; wing 5; *tail (of 14 feathers) 2·4;* tarsus 1·2.

Distribution: Inhabits Northern and Central Europe and Asia, migrating southward in autumn to Northern Africa, and in Asia to Ceylon and the Philippines.

Habitat: Swamps, marshy meadows or moorlands.

JACK SNIPE.

Gallinago gallinula (*Linn.*).

Adult: Crown black, marked with rufous and bordered on either side by buff; a broad patch before the eye brown; *back* and scapulars *black* and rufous, *with purple reflections*, *outer margins of scapulars creamy-buff*, forming two bands down the back: wings brown, the coverts margined with pale brown and white-tipped; sides of head, chin, breast and abdomen white, the two first speckled with brown; throat, chest and flanks conspicuously shaded and mottled with brown; axillaries white; bill brown, paler at base; legs and feet pale brown; irides dark brown. *Length 8 inches;* culmen 1·6; wing 4 to 4·5; tarsus (slender) 0·8.

Distribution: Breeds irregularly in the Arctic regions of Europe and Asia. In winter frequents the basin of the Mediterranean, Northern Africa and Southern Asia as far east as Burma. A winter visitant to Great Britain.

Habitat: Very similar to that of *G. cœlestis*.

Genus LIMICOLA.

BROAD-BILLED SANDPIPER.

Limicola platyrhyncha (*Temm.*).

Adult (Summer): *Above blackish-brown*, most of feathers margined with chestnut and a few with white; *rump*, upper tail-coverts and two central tail-feathers *coloured like the back;* outer rectrices and smaller wing-coverts greyish-brown; wing-quills brown, the secondaries narrowly margined with white; crown blackish tinged with rufous and greyish-white; *superciliary stripe white;* a streak before the eye dark brown; feathers of neck, breast, flanks and under tail-coverts white, with brown centres; rest of under parts white; bill dark

brown, paler beneath, *very wide and flat, much longer than head;* legs and feet blackish; irides hazel-brown. Length 6 to 6·5 inches; culmen 1·3; wing 4·2; tail 1·6; tarsus 0·8.

Adult (Winter): "From the base of the beak to the eye a brown streak, over that a broad one of white; top of the head, nape, back, all the wing-coverts and tertials ash-grey, the centre of each feather darker and the margin lighter; primaries black; chin, neck in front, and all the under surface pure white; legs blackish-brown" (Saunders).

Young in first plumage: Have the wing-coverts, white margins to the back feathers and breast suffused with buff.

Distribution: Breeds in North-eastern Europe, migrating through Central Europe to Northern Africa in autumn. Occurs as far east in Asia as Japan, and in winter on the Indian coasts. A rare straggler to Western Europe.

Habitat: Inland marshes, shores of fresh-water lakes.

Genus TRINGA.

DUNLIN.

Tringa alpina *Linn.*

Adult (Summer): *Feathers of upper parts black, with chestnut margins;* scapulars more chestnut than black; wings and tail greyish-brown, the latter having the central pair darker than the rest; wing-coverts pale tipped, the greater ones white tipped; chin white; scarcely spotted; throat, breast and sides of neck greyish-white, each feather streaked more or less conspicuously down the centre with blackish-brown; *centre of abdomen blackish-brown;* axillaries and rest of under parts white; bill, *legs* and feet *black;* irides hazel. *Length 6·5 to 7·5 inches;* culmen 1·2; wing 4·3 to 4·5; tail 0·9; tarsus 1.

Adult (Winter): Above nearly uniform ashy-grey, the centres of the feathers darker and their margins paler; throat greyish-white, obscurely marked with dull brown, *rest of under parts white.*

Young in first plumage: Feathers of upper parts much as in the adult in summer, but the pale edgings also consist of buff and white and are somewhat more conspicuous; rump,

upper tail-coverts, and wing-coverts coloured like the back; under parts white shaded with buff, and on chest with rufescent-buff; the latter with sides of body more or less conspicuously spotted with blackish-brown.

Young in Autumn: Are greyer above than the preceding and show the white edgings to the back feathers very conspicuously; beneath whiter and more clearly and boldly spotted.

Distribution: Inhabits the Palearctic and part of the Nearctic regions, breeding in the northern portions of its range, including the mountain districts of the north of England and Scotland.

Habitat: The sea-coast, mud flats, &c., retiring to high moors to breed.

Note.—There are two distinct races of the Dunlin inhabiting Europe; the one observable by its large size and wild disposition, and a smaller one frequenting marshy land contiguous to the sea more especially. The latter birds are very tame, are of a more slender build and more brightly coloured on the upper parts, while beneath they show less black in summer.

LITTLE STINT.

Tringa minuta *Leisl.*

Adult (Summer): Most feathers above blackish-brown, margined with chestnut, the chestnut scarcely observable however on upper tail-coverts; wing-quills brown; greater coverts tipped with white; lesser ones greyish-brown with dark centres; *tail greyish-brown*, the two central feathers blackish with narrow chestnut margins; beneath white, the breast suffused with buff and obscurely marked with brown; bill, *legs*, feet and claws *black;* irides hazel-brown. *Length 5·5 to 6 inches;* culmen 0·7; wing 3·75; tail 1·5; tarsus 0·8.

Adult (Winter): Feathers above greyish-brown with darker centres; upper tail-coverts darker with narrow pale margins; forehead and entire under parts pure white.

Young in first plumage: Differ from adults in summer plumage in having the loral region dusky; hind neck grey streaked with brown; some of scapular-feathers conspicuously margined with white; lesser coverts margined with chestnut; spots on chest wanting.

Birds of the year: "Differ from adults in winter plumage in having chestnut margins to the wing-coverts and the two centre tail-feathers" (Seebohm).

Distribution: Breeds in the extreme north-east of Europe and in Northern Asia, occurring elsewhere in Europe and Asia on migration. Winters as far south as South Africa and India.

Habitat: The sea-shore and marine mud flats, retiring to the "tundra" to nest.

TEMMINCK'S STINT.

Tringa temmincki *Leisl.*

Adult (Summer): "The general colour of the upper parts is greyish-brown, many of the feathers, sometimes more and sometimes fewer, being dark brown, margined and irregularly barred with buffish-chestnut; the four centre tail-feathers are dark brown, and the *three outer ones on each side are white*; the quills are brown, the first only with a white shaft, and a white bar is formed across the wing by the greater coverts having white tips. In the colour of the under parts it does not differ from the Little Stint. Bill brownish-black; legs, feet and claws brownish-grey; irides hazel" (Seebohm). *Length 5·5 to 5·75 inches;* culmen 0·65; wing 3·75; tail 1·9; tarsus 0·7.

Adult (Winter): Above brownish-grey, the feathers having dark centres and pale margins; beneath unstreaked; tail-feathers as in summer.

Young in first plumage: Feathers of upper parts with buff margins and dark brown sub-marginal bands; beneath suffused with buff on flanks and breast and on latter streaked with brown, otherwise very similar to adult in winter. May be readily distinguished by the white outermost tail-feathers.

Distribution: Breeds in North-eastern Europe and Northern Asia beyond the limits of forest-growth, ranging southward in autumn across both continents to both eastern and western shores of Africa, to India and the Malay Archipelago.

Habitat: Very similar to that of *T. minuta*.

CURLEW SANDPIPER.

Tringa subarquata (*Güld*).

Adult (Summer): Face, streak over eye and throat white speckled with brown; feathers of crown and neck chestnut streaked with black and white; *rump, upper and under tail-coverts white*, barred with black; tail ashy-grey with white shafts; wing-quills blackish with white shafts; greater coverts ashy-brown, margined with greyish-white; rest of *upper parts chestnut, barred with black;* beneath chestnut, shading on sides of body and at vent into reddish-white, where it is marked with black; *bill slightly decurved;* legs, feet and claws nearly black; irides hazel-brown. *Length 7·5 inches;* culmen 1·4; wing 4·8; tail 1·8; tarsus 1·1.

The adult female is slightly larger and has a longer bill.

Adult (Winter): Above hair-brown, the centres of the feathers darker; wings dark brown with pale margins; upper tail-coverts white; axillaries and under parts generally white, striated on sides of neck and breast with brown.

Young after first moult: Neck ashy-grey with dusky mottlings; upper parts generally dark brown with a distinct metallic gloss, the feathers narrowly margined with buff or whitish; axillaries, chin, abdomen, upper and under tail-coverts white as in adult; breast, throat and sides of body more or less suffused with warm ochreous.

Young (Winter): Have distinct pale margins to most feathers above.

Distribution: Probably breeds in the Arctic regions. Found on most European coasts during migration, occurring in winter as far south as Cape Colony, India and Tasmania.

Habitat: Very similar to that of *T. alpina.*

KNOT.

Tringa canutus *Linn.*

Adult (Summer): Crown and hind neck pale chestnut, the former thickly streaked with blackish; *back*, scapulars and tertiaries *black, spotted* or broadly streaked *with pale chestnut*

and white ; wing-quills greyish-brown with white shafts ; wing-coverts grey with pale margins ; *upper tail-coverts white*, subterminally *banded with blackish* and more or less suffused with pale chestnut ; tail pale greyish-brown ; axillaries white, barred with dark brown ; under parts generally chestnut, here and there mixed with white ; bill, legs and feet nearly black ; irides hazel-brown. *Length 9·5 inches ;* culmen 1·25 ; wing 6·25 to 6·7 ; tail 2·5 ; tarsus 1·15.

Adult (Winter) : Rump and upper tail-coverts white as in summer barred with black, a patch from base of upper mandible to above the eye white ; *general colour of upper parts brownish-grey*, all the wing-coverts having pale margins ; beneath white, the throat, chest, axillaries, sides, and under tail-coverts streaked or barred with greyish-brown.

Young in first plumage : Nearly resemble adults in winter, but the feathers of upper parts have narrow sub-terminal dark bands and pale buffish tips which later on become white ; beneath much as in adult (winter) but spotted on chest rather than barred.

Young (Winter) : Differ from adults chiefly in having dark sub-terminal bands and pale tips to some of wing-coverts as in first plumage.

Distribution : Found on European and North American coasts during autumn and winter. Breeds in Grinnell Land, &c.

Habitat : Sea-coast, mud flats or marine marshes, probably never moving far inland even in the breeding season.

PURPLE SANDPIPER.

Tringa striata *Linn.*

Adult (Summer) : Fore parts above dark greyish-brown, the feathers margined with chestnut ; *rump*, upper tail-coverts and central tail-feathers *blackish*-brown ; outer rectrices grey ; wings greyish-brown, *crossed by a white band ;* some of innermost secondaries chiefly white ; wing-coverts with pale tips ; an obscure streak over the eye ; axillaries and under parts white, the chest and flank-feathers having greyish-brown centres ; bill dark brown, paler at base beneath ; legs and feet dull yellow ;

irides hazel. *Length 8 to 8·5 inches;* culmen 1·2; wing 4·75 to 5·5; tarsus 0·85.

Adult (Winter): Upper parts suffused with rich purplish, the feathers margined with grey; eye-stripe almost obsolete; fore parts beneath sooty-grey, the chin whitish and chest-feathers margined with white; flanks also marked with dark grey; centre of abdomen and axillaries pure white.

Young in first plumage: Several of the feathers of upper parts margined with white, including the wing-coverts.

Distribution: Common summer visitant to the Arctic regions of Europe, Eastern Asia and parts of North America, passing southward on migration. Occurs in winter southward as far as Cape Colony.

Habitat: The sea-coast, retiring to elevated moors to breed.

Genus CALIDRIS.

SANDERLING.

Calidris arenaria (*Linn.*).

Adult (Summer): Feathers of fore parts above and beneath buffish-chestnut, spotted or streaked with blackish-brown; back- and scapular-feathers chiefly of this colour; wing-coverts, rump- and outer tail-feathers greyish-brown, the latter with white shafts and the two former with dark median streaks; greater coverts broadly tipped with white; some of upper tail-coverts coloured like the back; under parts below the breast white; bill, legs, and feet black; irides hazel-brown. *No hind toe. Length 7·5 to 8 inches;* culmen 0·8 to 1; wing 4·8; tail 2; tarsus 0·9.

Adult (Winter): Feathers above drab-grey, with dark shaft streaks and paler margins; wing-coverts darker and with white margins; feathers over the eye, forehead and entire under parts white.

Young in first plumage: The chestnut of the adult replaced by pale buffish-white both above and beneath; this colour soon fades into white, leaving the back chiefly dark brown, spotted with white; a few dark pencillings about the sides of face and chest; innermost secondaries with dark brown centres and white margins.

Young (Winter): Closely resemble adults, but may be distinguished by their dark brown innermost secondaries with white borders.

Distribution: Summer visitant to the Arctic regions of both hemispheres, occurring on most European coasts on passage. Some winter in the Mediterranean region; found also at that season in South Africa, Southern Asia, Patagonia, &c.

Habitat: The sea-shore, rarely retiring far inland.

Genus MACHETES.

RUFF.

Machetes pugnax (*Linn.*).

Adult Male (Summer): Face covered with yellow warty pimples; sides of occiput adorned by two tufts of elongated feathers; *around the throat a large and conspicuous ruff;* in colour exceedingly variable, changing occasionally even in the same individual in different seasons; some are yellowish-white, barred with black, or black glossed with purple, or barred with white, chestnut-red, or chestnut barred with black or white, &c. Upper parts likewise variable in colour, the general appearance being a mixture of greyish-brown, yellowish-white, reddish-brown and black, sides of breast and flanks pale reddish-brown, barred transversely with black or entirely black; abdomen, under tail-coverts and *axillaries white;* wing- and tail-quills almost uniform brown, the central rectrices barred with dark brown; bill yellowish-orange, darker at tip; legs and feet yellowish-brown; irides hazel. *Length 10·5 to 12 inches;* culmen 1·5; wing 7 to 7·4; tail 2·7; tarsus 1.

Adult Male (Winter): "Differs from the summer dress in entirely lacking the ruff and tubercles on the face; the chin is whitish; the throat and neck greyish-brown, varied with dark brown" (Dresser).

Adult Female (known as the *Reeve*) **(Summer)**: Smaller than the male; without the ruff and occipital tufts at all seasons; above cinereous-brown mixed with velvety-black; neck and breast very similar, but paler; abdomen white; bill brownish; legs and feet yellowish-brown.

Young in first plumage: "Resemble adult females in summer plumage in the colour of their upper parts, but in that

of their under parts they resemble adults in winter plumage, except that in both the white is replaced by buff, very pale in the centre of the belly and the under tail-coverts" (Seebohm).

Young (Winter): Very like adults, but much darker on the breast.

Distribution: Breeds throughout the greater part of Northern Europe and Asia, except in the extreme north. Occurs also in North America casually and is found in winter as far south as Cape Colony, India and sometimes in Borneo.

Habitat: Extensive marshes or swampy moorlands.

Genus TOTANUS.

COMMON SANDPIPER.

Totanus hypoleucus (*Linn.*).

Adult (Summer): General colour of *upper parts olive-brown*, glossed, especially on the hinder parts, with bronze, barred, streaked or otherwise *marked with dark brown; wings* dull blackish-brown, *barred with white;* spurious wing white, outermost rectrices chiefly white barred with brown, most of the other tail-feathers white tipped; superciliary stripe and chin white; breast and sides of neck greyish, streaked with brown; rest of under parts including *axillaries white;* bill dark brown, paler at the base beneath; legs and feet greyish-olive; claws black; irides hazel. Length 7 to 7·25 inches; culmen 1; *wing 4·2;* tail 2; tarsus 0·9.

Adult (Winter): Dark streaks on upper parts hardly observable except on wing and upper tail-coverts; sides of breast and neck washed with brown, but hardly streaked at all.

Young: Most of feathers on upper parts tipped with buff and subterminally banded with dark brown; beneath as in adults in winter.

Distribution: Temperate portions of Europe and Northern Asia in summer, migrating southward in autumn to the coasts of Africa, to the Indian and Australian regions.

Habitat: Margins of mountain streams or tarns, or during the migrating period frequenting mud flats or rocky coasts.

GREEN SANDPIPER.

Totanus ochropus (*Linn.*).

Adult (Summer): Above dusky-green; sides of head and neck streaked, and mantle, scapulars and innermost secondaries spotted with white; *upper tail-coverts* and tail *white*, the latter broadly barred with brown; wing-quills dusky brown; beneath white, streaked on neck and chest with brown; *axillaries brown, narrowly barred with white;* bill (from gape) above an inch and a half long, blackish; legs and feet slaty-grey, greenish at the points; irides hazel-brown. Length about 8·5 inches; *culmen 1·3;* wing 5·5; tail 2·2; tarsus 1·3.

Adult (Winter): The head and neck lack the white streaks and the back spots are smaller than in summer.

Young in first plumage: Resemble adults in winter, but are darker; the spots on upper parts chestnut-buff, not white.

Young of the year: Resemble adults in winter, but are much less spotted above.

Distribution: Generally distributed over Europe and Asia, breeding in the more northerly parts and migrating in autumn to Africa and India.

Habitat: Marshes, margins of lakes and rivers, rarely the sea-coast.

WOOD SANDPIPER.

Totanus glareola (*Linn.*).

Adult: Differs from *T. ochropus* in being smaller, having a shorter bill and wings and longer legs; upper parts darker, more olive and more mixed with white about the back than in *T. ochropus;* outermost tail-feathers white, barred or spotted with brown on outer webs; *axillaries white, obscurely barred with brown;* bill olive; legs and feet yellowish-green; irides dark brown. Length 7·5 inches; *culmen 1·15;* wing 4·8; tail 2; *bare portion of tibia 0·8;* tarsus 1·45.

Young in first plumage: Are very like adults, but the feathers of the fore parts above have marginal spots of buff and white; fore parts beneath very obscurely streaked.

Distribution: Found throughout most of the Palearctic region, passing southward in autumn to Southern Africa, India and the Philippine Isles.

Habitat: Open moorland; among brushwood near water.

MARSH SANDPIPER.

Totanus stagnatilis *Bechst.*

Adult (Summer): Above greyish-brown, more or less tinged with buff; head and neck streaked and mottled with dark brown; mantle and scapulars boldly blotched and barred with blackish; *lower back and rump white;* tail white, barred with brown; primaries and lesser coverts almost uniform dark brown; *secondaries nearly uniform grey;* chin and under parts generally white, marked with brown on sides of chest and breast; bill black, greenish at the base; legs and feet pale yellowish-green; irides dark brown. Length 9 inches; culmen 1·6; wing 5·3; tail 2·1; tarsus 1·9.

Adult (Winter): General colour above cinereous, some of the feathers centrally streaked with dark brown; wing-coverts dark blackish-grey, speckled with white; beneath white, almost unmarked.

Young in first plumage: Above blackish-brown, the feathers margined with yellowish and some of the greater wing-coverts transversely barred with deep brown; beneath white, minutely spotted on cheeks, neck and breast with brown; legs and feet greenish-grey.

Distribution: Breeds in central portions of Europe and Asia, occurring southward on migration. Winters throughout Africa, in India, and down to the Malay Archipelago.

Habitat: Closely resembles that of *T. ochropus* (Lord Lilford).

REDSHANK.

Totanus calidris (*Linn.*).

Adult (Summer): Fore parts above brown, barred, streaked, and spotted with buffish-grey; *rump white;* central rectrices greyish-brown, outer ones white and all barred with

dark brown; primaries dark brown, the inner ones white, marbled with brown towards the tips; *secondaries pure white, mottled with brown at their bases;* beneath white, thickly striated with dark brown on chin, throat and breast, less so on the abdomen; flanks and under tail-coverts barred with brown; bill orange, black towards tip; *legs* and feet *orange-red;* claws black; irides hazel-brown. *Length 11 inches;* culmen 1·75; wing 6·2; tail 2·75; tarsus 1·8.

Adult (Winter): Crown, nape, hind neck, mantle and scapulars hair-brown; beneath white, washed with brown on sides of chest, and sparingly streaked on neck and breast with darker brown.

Young in first plumage: Feathers of fore parts above brown, margined with buffish-white spots, each spot obscurely emphasised by blackish behind; under parts more streaked than adults in winter and less so than those in summer dress.

Distribution: Found throughout most of Europe and Asia in summer, migrating southward in autumn to South Africa and the Indian region.

Habitat: Sea-shore or marine mud flats, breeding in marshes inland.

SPOTTED OR DUSKY REDSHANK.

Totanus fuscus (*Linn.*).

Adult (Summer): Head, neck and under parts dull slaty-grey; back, scapulars, *secondaries*, and inner primaries dark glossy *brown*, spotted or *barred with white;* outer primaries and lesser wing-coverts dusky brown; rump white; tail white, closely barred with brown; centre of abdomen, flanks and under tail-coverts more or less marked with white; bill black, orange at base beneath; legs and feet orange-brown; irides hazel-brown. Length about 12 inches; *culmen 2·3;* wing 6·25 to 6·5; tail 2·6; tarsus 2·2.

Adult (Winter): Head, hind neck, mantle, scapulars, and innermost secondaries uniform greyish-brown, the margins of the latter having dark brown and white spots; superciliary region white; beneath white, shaded with greyish-brown on breast and flanks; legs and feet brighter orange; otherwise as in summer.

Young in first plumage: "Closely resemble adults in breeding-plumage, but are browner on the head and neck, duller in colour and more spotted; the under parts are greyish-white, barred and streaked with brown, the lores are very dark brown, and a white streak extends over the eye" (Seebohm).

Birds of the year: Have the entire under parts barred with brown; otherwise resemble adults in winter. In all stages of plumage *T. fuscus* may be distinguished from *T. calidris* by its longer bill and brown secondaries, barred with white.

Distribution: Breeds in Europe and Asia within the Arctic Circle and ranges in winter into the Mediterranean region, Northern Africa, India, China and Japan.

Habitat: Marshes and swampy ground inland: less frequently observed on the sea-coast than *T. calidris*.

GREENSHANK.

Totanus canescens (*Gmel.*).

Adult (Summer): Head and neck white with dusky streaks; breast, upper part of abdomen and flanks white, spotted with blackish; rest of under parts, lower back and rump pure white; feathers of scapulars, mantle and innermost secondaries black, some having greyish margins; rest of *secondaries almost uniform brownish-grey;* primaries blackish; wing-coverts dark brown; tail white, barred with pale brown; bill black *(anterior half slightly recurved); legs* and feet *olive-green;* irides hazel. Length 13·5 inches; culmen 2·2; *wing 7·3;* tail 3; tarsus 2·3.

Adult (Winter): "The black blotches on the feathers of the upper parts are reduced to subterminal margins, and the streaks on the under parts are confined to the sides of the neck and of the breast, the under wing-coverts, and the axillaries" (Seebohm).

Young in first plumage: "Have the feathers of the upper parts blackish-brown, with very pale buff margins, and on the innermost secondaries and scapulars are obscure dark spots; the colours of the rump, upper tail-coverts, quills and tail are the same as in the adult, but the bars on the centre tail-feathers are more conspicuous, because the ground-colour is white, but those on the axillaries are nearly obsolete. The spots on the under parts are much less distinct than in breeding-

plumage, but much more so than in winter dress, extending across the throat and far on the sides of the breast" (Seebohm).

Distribution: Breeds in Scotland and in the more northerly parts of continental Europe, and in Asia as far east as the Stanoi Mountains. Ranges in winter as far as South Africa and Australia.

Habitat: High mountain marshes or loch sides, resorting to the sea-coast in winter.

TEREK SANDPIPER.

Totanus terekius (*Lath.*).

Adult (Summer): *Above* pale hair-brown, mixed with white about the neck and *streaked with blackish* on crown and centre of back; some of innermost secondaries almost entirely blackish-brown; primaries and least wing-coverts dark brown, some of inner primaries and *secondaries broadly tipped with white;* sides of head, sides of neck and chest streaked with brown; under parts otherwise and *axillaries pure white;* bill blackish, greenish at base beneath; legs and feet pale green; irides blackish-grey, *Length 8 inches;* culmen 1·75; wing 5; tail 2·25; tarsus 1.

Adult (Winter): Greyer in general tint than in summer, with scarcely any black about the back and little on the scapulars, and tinged here and there with fulvous.

Young in first plumage: Resemble adults in summer, but are more conspicuously streaked on the back with blackish.

Distribution: Found in summer in North-eastern Europe and Asia from lat. 66° to lat. 70°. Ranges in autumn to the Southern Asiatic shores.

Habitat: Very like the Common Sandpiper, frequenting the margins of inland lakes or streams: the sea-coast in winter.

Genus LIMOSA.

BAR-TAILED GODWIT.

Limosa lapponica (*Linn.*).

Adult Male (Summer): Above dark brown, spotted with

chestnut on crown, mantle and scapulars; wing-coverts greyish-brown with darker centres and whitish margins; wings dark brown, the secondaries margined with white; *rump white*, some of feathers *marked with brown;* tail-feathers and *axillaries white, barred with brown;* sides of head, back of neck and *under parts rich ferruginous*, marked about the flanks with brown; bill brown, paler at the base; legs and feet black; irides brown. *Length 15·5 inches;* culmen 3; wing 8; tail 2·75; tarsus 2.

Adult Female (Summer): The chestnut both above and beneath is decidedly paler. Larger than the male.

Adults (Winter): Feathers above greyish-brown with pale edges and dark shaft-lines; tail-feathers plain ashy-grey, slightly marbled at the base; wing and upper tail-coverts and rump much as in summer; throat and chest greyish-white, streaked with brown; abdomen almost white; bill tipped with black.

Young in first plumage: Resemble adults in winter, but are browner above, where some feathers are tinged with chestnut, especially about the scapulars; tail barred as in summer; beneath more suffused with buff.

Distribution: Breeds in North-eastern Europe, ranging southward in autumn to the Gambia and Somali Land. In Asia it occurs as far south as India during the cold season.

Habitat: Found on the sea-coast or on inland marshes; gregarious.

BLACK-TAILED GODWIT.

Limosa ægocephala (*Linn.*).

Adult Male (Summer): Crown black, the feathers margined with bright chestnut; eye-stripe whitish; lores brown; throat and neck bright chestnut, shading into white on the chin, here and there obscurely speckled with brown; mantle and scapulars dark brown, barred or spotted with chestnut; wings dark brown, crossed by a conspicuous white bar; wing-coverts chiefly ashy-grey, some tipped with white; *lower back and rump black;* upper tail-coverts and *bases of rectrices white; tail otherwise blackish*, tipped with white; breast and flank-feathers chestnut, barred with brown and tipped with white; centre of abdomen, lower tail-coverts and axillaries

white; bill dark brown, orange at base; legs and feet black; irides hazel. Length 18·5 to 19 inches; culmen 3·8; wing 8·25; tail 3·4; tarsus 2·75.

Adult Female (Summer): Much less brilliant in tint than the male and considerably larger.

Adult (Winter): "The general colour of both the upper and under parts resembles that of the Bar-tailed Godwit, but the dark shaft-streaks of the feathers are absent. The wings, wing-coverts, lower back, upper tail-coverts, and tail of the Black-tailed Godwit in winter resemble those of summer, and are points which serve at all ages and in all seasons to distinguish this species from the Bar-tailed Godwit" (Seebohm.)

Young in first plumage: "Differ from adults in winter plumage in having the feathers of the head, neck, breast, and flanks suffused with buff, and those of the mantle, scapulars, and innermost secondaries broadly edged with buff" (Seebohm).

Distribution: Summer visitant to many parts of Europe and to Siberia, wintering in the Mediterranean region, and as far south in Asia as Ceylon.

Habitat: Very similar to that of *L. lapponica*.

Genus NUMENIUS.

CURLEW.

Numenius arquata (*Linn.*).

Adult: Head, neck and breast brownish-buff, tinged with rufous, the shafts and central portion of the feathers dark brown; mantle and scapulars blackish-brown, the feathers more or less broadly margined with pale rufous-brown; lower back and *rump white, boldly spotted with blackish;* tail white, shaded with brownish-buff, and barred with brown; primaries dark brown blotched with white on inner webs; chin and abdomen white, the latter streaked with brown; flanks barred, streaked and shaded with brown; *bill (long and decurved)* brown, blackish towards tip; legs and feet dusky; irides brown. Length (male) about 20 inches; culmen 4 to 4·7; *wing 11;* tarsus 3.

Adult Female : Differs from the male in its larger size only, which is especially noticeable in the bill.

Young in first plumage : More rufous above than adults, and the scapular and innermost secondary markings have more tendency to take the form of bars; beneath much more buff and more copiously marked.

Young in down : Have a perfectly straight bill.

Distribution : Summer visitant to Northern Europe, occurring throughout the central and southern portions on migration. Winters in Africa.

Habitat : Vast heathy commons and high moors, retiring to the sea-coast in autumn.

WHIMBREL.

Numenius phæopus (*Linn.*).

Adult : *Crown dark brown with a mesial band of greyish-white;* pale markings on the back and wings, margins of neck-feathers and superciliary stripe dull greyish or greyish-brown; tail pale brown, barred with darker brown; axillaries strongly barred with brown; plumage otherwise much as in *N. arquata;* bill (decurved) dark brown, paler at the base beneath; legs and feet dull slate-grey; irides hazel-brown. Length about 17 inches; culmen 3; *wing 8·25 to 9;* tarsus 2·2.

Female larger, otherwise similar to the male.

Young in first plumage : Mantle, scapulars, innermost secondaries and wing-coverts marked with buff instead of greyish; rump distinctly streaked with brown.

Distribution : Breeds in Arctic Europe, migrating in autumn to South Africa, Madagascar and the Indian region.

Habitat : Very similar to that of *N. arquata.*

SLENDER-BILLED CURLEW.

Numenius tenuirostris *Vieill.*

Adult : "Very similar in plumage to *N. arquata,* but much smaller and more mealy looking. The chest is white, and the

spots on the under parts are pear-shaped. It may at once be recognised from *N. phœopus* by its not having a dark crown, as well as by the colour of the axillaries and under wing-coverts, which are pure white" (Shelley). Length 14 inches; culmen 2·75; *wing 9 to 9·3;* tarsus 2·3. Female larger than the male, the bill especially being much longer and the breast more thickly spotted.

Distribution: Resident in the Mediterranean region.

Habitat: Probably very similar to that of *N. arquata.*

Order GAVIÆ.

Family LARIDÆ.

Sub-family STERNINÆ.

Genus HYDROCHELIDON.

BLACK TERN.

Hydrochelidon nigra (*Linn.*).

Adult (Summer): Head and neck dark lead-grey, blackish on crown and nape; back, *wings and tail nearly uniform slate-grey*, becoming whitish on the shoulders; breast and abdomen, like head and neck, *dark lead-grey;* under wing-coverts pale grey; vent and under tail-coverts white; tail distinctly, though not deeply, forked; outer feathers on either side the longest; bill black; legs and feet dark reddish-brown; irides dark brown. *Length 10 inches;* culmen 1·25; wing 8·5; tail 3·25; tarsus 0·65.

Adult (Winter): Forehead, chin, throat and loral region white, otherwise as in summer, except for a few white bars across the breast.

Immature Birds: "Forehead, cheeks, and under surface of the body white; back, wings, and tail leaden-grey intermingled with brown" (Shelley).

Distribution: Breeds in suitable localities throughout most of Europe south of the Baltic, also in North America. Winters in Africa and in South America as far as Chili.

Habitat: Inland marshes and margins of lakes and rivers; the sea-coast during migration.

WHITE-WINGED BLACK TERN.

Hydrochelidon leucoptera (*Schinz.*).

Adult (Summer): Head and fore parts above glossy black, *lesser wing-coverts and edge of wing white;* rest of wing-coverts and secondaries grey; primaries grey or black, shaded with grey; shafts and a streak on inner webs white; upper tail-coverts and *tail white; beneath black* except under surface of tail which is white; bill red; legs and feet orange-red; claws black; irides hazel-brown. *Length 9·5 inches;* wing 8·2; tail 3; tarsus 0·8.

Adult (Autumn): "The black portions of the plumage become white on the head, neck and under parts, and slate-grey on the mantle . . . some black is never absent from the nape and ear-coverts" (Saunders).

Young in August: "The bill livid brown; lores and forehead white; crown and nape brownish-grey; a dark streak behind the ear-coverts; sides of the neck white, tinted with buff; upper back and scapulars slate-grey, tipped or overlaid with brown, which gradually wears off; back grey mottled with brown; rump white, passing to grey on the tail-coverts; tail-feathers grey, darker and browner at tips; primaries darker on inner webs than in the adults; under wing-coverts and under parts white" (Saunders).

Distribution: Breeds in parts of Central and Southern Europe and in Asia from the Caspian to the Amoor and Northern China, also in parts of Northern Africa. Occurs in Western Europe on migration, and winters in Southern Africa, India, and wanders even to Celebes.

Habitat: Large inland marshes and lakes, frequenting the sea-coast during migration.

Note.—"By its longer and more slender toes and claws, and deeply incised webs, this species may be distinguished from *H. nigra* at all ages, whilst its generally smaller dimensions serve to separate the young from that of *H. hybrida*" (Saunders).

WHISKERED TERN.

Hydrochelidon hybrida (*Pall.*).

Adult (Summer): *Above pearl-grey, head* and nape *black:*

cheeks, throat, under surface of wings and tail white, rest of *under* parts *leaden-grey;* bill blood-red; legs, toes, and membranes deep red; irides dark brown. *Length 11·5 inches;* culmen 1·45; wing 9·2; tail 3·4; tarsus 0·9.

Adult (Winter): Forehead, crown, and under parts white; some streaks on hinder crown and neck black.

Birds of the year: Crown, occiput, and ear-coverts greyish-black; feathers of back, scapulars, and secondaries dark brown in the centre, barred and tipped with buff; tail-feathers grey, darker towards the tips, margined with white; bill brown, reddish at base; legs and feet flesh-colour.

Distribution: Breeds in South-western Spain and in South-eastern Europe, also in Asia, from as far as Mongolia, and in Northern Africa. Winters in South Africa, and to the eastward has been found as far south as Australia.

Habitat: Very similar to that of *H. nigra* and *H. leucoptera.*

Genus STERNA.

GULL-BILLED TERN.

Sterna anglica *Mont.*

Adult (Summer): Forehead, crown, and nape black; hind neck greyish-white; rest of upper parts pale ashy-grey; beneath white; *bill* deep and powerful, *entirely black;* legs, feet and claws black. *Length 14 to 15·5 inches;* culmen 1·5; wing 13; tail 5; tarsus 1·25.

Adult (Winter): Head white, streaked with grey and black; a dark stripe through the eye and ear-coverts.

Immature Birds: "The bill brown; head on the top dull white, varied with pale brown and dusky streaks; on the ear-coverts a spot of greyish-black; neck all round white: back, scapulars, and tertials orange-brown, spotted with darker brown; wing-coverts ash-grey, tipped with pale orange-buff; primaries pearl-grey; tail but little forked; chin, neck, and all the under surface of the body white; legs and feet brown."

Distribution: Breeds on the Danish coast, in Spain, South-eastern Europe, and Northern Africa; also occurs in the Indian, Nearctic, and Neotropical regions.

Habitat: Sea-coast lagoons or marshes. Gregarious.

ALLIED TERN.

Sterna media *Horsf.*

Adult (Summer): Crown and nape black; back, *rump and tail pearl-grey*, the outermost rectrices white; inner webs of wing-quills blackish next the shafts and at tips, otherwise white; cheeks, throat and under parts white; bill yellow; legs and feet black; irides brown. *Length 13·5 to 16 inches;* culmen 2·2; wing 11·5 to 12·5; tarsus 1.

Adult (Winter): Forehead grey; crown white, spotted with black, nape black, otherwise as in summer.

Young: "Resembles the adult in winter, but the wing-coverts are marked with sooty-grey, the blackish grey on the quills covers a larger area, and the tail is tipped with blackish-grey, the outer rectrices being much shorter than in the adult" (Dresser).

Distribution: Inhabits the Mediterranean region, the Red Sea, and the coasts of Madagascar, ranging eastward along the Indian coasts to the Malay Archipelago and Australia.

Habitat: Closely resembles that of *S. cantiaca*. Gregarious.

CASPIAN TERN.

Sterna caspia *Pall.*

Adult (Summer): Feathers of forehead, *crown* and nape deep *black*, those of occiput elongated; *above* (from lower neck downwards) *ashy-grey;* first six primaries darker at tips and on inner webs, their shafts white; beneath white; bill bright red, paler towards tip; legs, feet and claws black; irides dark brown. *Length 19 to 21 inches;* culmen 2·8; wing 16·5; tail 6; tarsus 1·5.

Adult (Winter): Crown white, streaked with black; anterior angle of eye and spot behind the ear-coverts black.

Young in first plumage: "Have the beak of a dull red, horn-coloured at the point; the forehead and top of the head white; the upper surface of the body varied with patches of ash-brown, and darker transverse bands; the feathers of the

tail have dark ends ; the primary quill-feathers are also dark ; all the under surface of the body pure white " (Saunders).

Distribution: Breeds on the Danish and Baltic coasts and in the Mediterranean region. Found in Asia from the Caspian to China, and inhabits also the coasts of Australia, New Zealand, Africa, and North America.

Habitat: The sea-coast, not retiring far inland.

SANDWICH TERN.

Sterna cantiaca *Gmel.*

Adult (Summer): Cheeks, neck, *tail and under parts white*, on the latter often a flush of delicate pink ; *head* above the eyes, *black ;* feathers of occiput elongated into a loose plume, back and wings pearl-grey, ends of secondaries and upper primaries almost white ; longest primary slate-grey with a white shaft ; *bill black, tipped with yellow ; legs and feet black. Length 15 to 15·5 inches ;* culmen 1·9 ; wing 10·5 to 12 ; tail 6·75 ; tarsus 1.

Adult (Winter): Very similar, but top of head white, spotted and streaked with black.

Young: Back varied with pale brown and black ; tail brown, ashy towards the base and white-tipped ; bill and legs dark brown, the former paler at base beneath.

Distribution : Breeds in Northern Europe (including the British Isles) ranging southward to the Cape of Good Hope and Bay of Bengal in winter. Found also along the Atlantic coast of America as far south as Brazil.

Habitat: Similar to that of *S. caspia.*

ROSEATE TERN.

Sterna dougalli *Mont.*

Adult (Summer): Top of head black ; back and wings delicate grey, upper tail-coverts washed with grey ; outer webs of *primaries* and a narrow streak next the shaft on inner webs dark grey, and *broadly margined with white*, which is apparent on the tips ; plumage otherwise white, *tinged strongly on the*

breast with rose-colour; bill with basal portion red, otherwise black; *legs and feet red;* irides dark brown. Length 15·5 to 17 inches; culmen 1·7; wing 9 to 9.25; *tail 9;* tarsus 0·75.

Adult (Winter): Similar, but with a white forehead and entirely black bill.

Young: Are conspicuously marked above with brown and yellowish-white; tail grey, tipped with white; beneath all white; primaries as in adult; bill orange-yellow at base; legs pale red.

Distribution: Inhabits many of the European coasts as well as those of the eastern Nearctic region. Inhabits also the Indian, Malayan, African, and Australian coasts. A summer visitant to the northern portions of its range.

Habitat: The sea-coast and marine islands.

COMMON TERN.

Sterna fluviatilis *Naum.*

Adult (Summer): *Crown* and nape *black; back* and wings *grey*, edges of wings white; quills with outer webs nearly black; *inner webs white inwardly, with a broad blackish-grey band next the shaft;* rump and tail white, latter with outer webs of most feathers grey; beneath grey on breast and abdomen; bill and legs coral-red, former blackish towards tip; irides dark brown. Length 13·5 to 15 inches; culmen 1·4 to 1·6; wing 10·5 to 11; tail 5 to 6; *tarsus 0·7 to 0·8.*

Adult (Winter): Colour of bill, legs and feet paler than in summer.

Young: Head much browner than in adults; forehead greyish-white; back-feathers with subterminal bands of reddish-brown and pale-tipped; many of primaries white-tipped; beneath almost white; bill dusky red, orange at base beneath.

Distribution: Inhabits during summer most European waters, and is found from the Caspian to Merv in Asia, likewise on the Atlantic coast of North America. In winter it occurs along the western coast of Africa.

Habitat: The sea-coast, but also occurs on inland fresh waters.

ARCTIC TERN.

Sterna macrura *Naum.*

Adult: In general colour and changes of plumage very similar to *S. fluviatilis*, but may be distinguished by the primaries having a *narrow dusky-grey band on inner webs next the shaft*, no broader than the outer web; tarsi much shorter than in *S. fluviatilis* and bill uniform coral-red. Length 15 inches; culmen 1·25; wing 11; tail 7·25; *tarsus 0·5*.

Distribution: Breeds in the Circumpolar regions, ranging southward in autumn along the Atlantic coasts to Southern Africa.

Habitat: The sea-coast, rarely appearing far inland.

LESSER TERN.

Sterna minuta *Linn.*

Adult (Summer): Forehead white; *crown* and nape *black; back and wings grey;* two outermost primaries dusky, broadly margined with white on inner webs; plumage otherwise white; bill yellowish-orange, tipped with black; irides dark brown; legs and feet orange. *Length 8·25 to 9 inches;* culmen 1·15; wing 7; tail 3; tarsus 0·6.

Adult (Winter): Black on head duller, in other respects similar to summer plumage.

Young: Forehead greyish-white; crown varied with brown; round the eyes and nape black, the latter mottled with white; feathers of back and scapulars grey, margined conspicuously with dark brown; primaries white-tipped; bill dark brown, paler at base beneath.

Distribution: Summer visitant to and breeding on European coasts and many rivers south of the Baltic, also on the Caspian, in Lower Egypt, India, and eastward to Formosa. Found in winter along the Western African coast.

Habitat: Low, flat marine islets or shingly beaches.

Sub-family LARINÆ.

Genus XEMA.

SABINE'S GULL.

Xema sabini (*J. Sabine*).

Adult (Summer): *Entire head dark slate-grey;* round the neck a narrow *black collar;* lower part of neck white; back and wings French-grey; primaries black, marked with white on the tips and on outer half of inner webs; rest of plumage white; bill black at base, yellow at tip; legs, feet and claws reddish-black; irides dark brown. Length 14 inches; culmen 1·25; wing 10·75; *tail (forked) 4·6;* tarsus 2·4.

Young in first plumage: Appear to have the prevailing colour of upper parts blackish-grey; tail tipped with black; outermost primaries black, brownish at base; chest-feathers pale ash-colour.

Young in second year: "The forehead and crown white; an irregular and rather broad dark band or patch on the nape where the collar joins the hood in the adult; the white tips of the primaries are abruptly abraded . . . legs and feet clay-brown; mantle, tail, under parts and bill as in the adult" (Saunders).

Distribution: Almost Circumpolar. Occurs casually in temperate Europe. In the Pacific Ocean, ranges south of the Equator, but in the Atlantic is not found south of the Bermudas.

Habitat: Strictly oceanic.

Genus LARUS.

LITTLE GULL.

Larus minutus *Pall.*

Adult (Summer): *Back*, wings and coverts delicate *French-grey;* under surface of wings greyish-black; axillaries greyish-white; *entire head black;* plumage otherwise, including tips of wing-quills, pure white, the breast sometimes tinged with delicate pink; bill dark red; legs and feet coral-red; irides

deep brown. Length 10 to 11 inches; culmen 0·9; *wing 8·8;* tail 3·6; tarsus 0·9.

Adult (Winter): Very similar, but with the head white, the nape marked with grey.

Young in first plumage: Crown, ear-coverts, mantle, lesser wing-coverts, and innermost secondaries dusky, the latter white-tipped; primaries smoky-grey, broadly margined on innermost webs with white; tail with broad terminal black band; bill nearly black.

Distribution: Breeds in North-eastern Europe and in temperate Asia, as far north as the Sea of Okhotsk. Found on European coasts and inland waters during migration, frequenting also the Mediterranean Sea and northern shores of Africa.

Habitat: Marshes and inland lakes, retiring to the sea-coast in autumn.

BLACK-HEADED GULL.

Larus ridibundus *Linn.*

Adult (Summer): *Head dark brown; first primary* black on most part of outer web, *white on inner web; with a blackish margin and tip;* second and third primaries the same but with narrower dark margins; tips black, shafts white; fifth and sixth primaries grey on both webs, bordered on inner webs and tipped with black; back, secondaries and wing-coverts uniform delicate grey; tail and under parts white, the breast tinged with rose-colour; bill, legs and feet lake-red; irides hazel. Length 16 inches; culmen 1·3; *wing 12;* tail 5; tarsus 1·75.

Adult (Winter): Feathers round eyes and ear-coverts dusky-grey; nape marked with grey; head otherwise white.

Young in first plumage: Hinder crown, nape, hind neck, back, scapulars and smaller wing-coverts more or less brown, with pale tips; greater coverts and secondaries French-grey; outer primaries with shafts and central portion chiefly white, otherwise black; tail broadly banded at end with blackish; bill yellowish-brown, blackish at tip.

Young after first moult: Are greyer on the back, but retain the brown marked lesser coverts and head, also the black tips to the tail-feathers.

Distribution: Inhabits most of Europe and ranges from Palestine to the Indian coast, also across temperate Siberia, to China and Japan. Found in Northern Africa during the winter.

Habitat: Inland lakes, marshes, rivers or wet moors; the sea-coast in winter.

MEDITERRANEAN BLACK-HEADED GULL.

Larus melanocephalus *Natt.*

Adult (Summer): Differs from *L. ridibundus* in having the *head black*, not dark brown; *first primary with line of black on outer web; primaries otherwise white;* (in less mature birds the first five quills are streaked and subterminally banded with black); *bill coral-red, very stout*, with a dark band in front of the angle. Length 17 inches; culmen 1·6; wing 11·5 to 12; tail 5; tarsus 1·9.

Birds of the year: First five primaries have outer webs, shafts, and greater portion of inner webs dark brown both above and beneath with light margins, otherwise similar to adults.

Distribution: Breeds in Spain, Asia Minor, and on the Black Sea. Has occurred not unfrequently as a straggler in France, and once or twice in England.

Habitat: Sea-coast, breeding in marine marshes.

GREAT BLACK-HEADED GULL.

Larus ichthyaëtus *Pall.*

Adult (Summer): *Head deep black;* behind the eye a small white patch; mantle and wing-coverts dark grey; first primary white with a patch of black on inner web and a narrow band of black on outer web; next three primaries subterminally barred with black and white-tipped; secondaries conspicuously white-tipped; rest of plumage pure white; *bill orange*, yellower at base, *with transverse black bar before the angle;* legs and feet greenish-yellow; webs orange; irides dark brown. *Length 27 inches;* culmen 3·4; wing 18·75 to 19; tarsus 2·8.

Adult (Winter): Head and neck white, the nape and back of neck with a few dusky markings; central tail-feathers sometimes grey.

Young: Above mottled with brown; primaries dusky-brown; secondaries brown, broadly tipped with white, their anterior portions margined with white; tail broadly and uniformly banded with black, outer rectrices edged with white.

Distribution: Inhabits the Eastern Mediterranean, the Caspian, Red Sea, and Persian Gulf, ranging to the coasts of India.

Habitat: Rivers or lakes during the breeding season; frequents the sea-coast in winter.

COMMON GULL.

Larus canus *Linn.*

Adult (Summer): *Head*, neck, upper tail-coverts, tail and under parts *pure white; back*, wings and coverts *grey;* secondaries broadly edged and tipped with white; *first primary grey at base of inner web, otherwise black, with a band of white across the end*, and just tipped with black, rest of primaries grey at bases, black towards the end and white-tipped; bill bright yellow at tip, greenish at base; legs and feet greenish-yellow; irides golden-brown. *Length 18·5 inches;* culmen 1·4; wing 14·25; tail 5·6; tarsus 2.

Adult (Winter): Head, neck, sides of chest, and some feathers about the carpal joint spotted with pale dusky brown, or dull ashy; legs and feet olivaceous; otherwise as in summer.

Young: Crown, sides of head, and nape closely mottled with greyish-brown; rest of upper parts dull brown, most of the feathers with pale margins; a few grey feathers about the back and scapulars; apical half of primaries chiefly blackish-brown, greater wing-coverts chiefly grey; tail-feathers broadly banded with blackish-brown at tips; sides of throat, chest, and breast closely mottled with greyish-brown; bill yellowish-brown, nearly black on apical half; legs and feet yellowish-brown.

Distribution: Inhabits the Palearctic region, breeding in the more northerly parts. Breeds in Scotland, but is chiefly a winter visitant to English coasts. Visits the basin of the

Mediterranean, the Black Sea and Caspian, and eastward extends to Japanese and Chinese waters in winter.

Habitat: Marine islands or inland lakes and rivers, retiring to the sea-coast in autumn.

HERRING GULL.

Larus argentatus *Gmel.*

Adult (Summer): Very similar to *L. canus* in summer, but larger, and has the *outer primary chiefly black, with a grey wedge from base down inner web, and broadly tipped with white;* second primary with the white tip broken by a sub-apical black band; third, fourth, and fifth barred with black; rest of primaries grey, tipped with white; bill large, yellow, red at angle of lower mandible; *legs and feet flesh-colour;* irides straw-yellow. *Length 22 to 24 inches;* culmen 2·25; wing 16·75 to 18; tail 6·75; tarsus 2·5 to 2·75.

Adult (Winter): Head streaked with dusky-grey, otherwise as in summer.

Young in first plumage: Head, neck and under parts greyish-white, streaked or mottled closely with greyish-brown; upper parts brown, the feathers with broad buffish margins and tips; tail-feathers broadly banded with dark brown towards the tips which are white; primaries dusky-brown; bill nearly black; legs and irides brown.

By the **third year** some feathers on the mantle are grey and some of upper tail-coverts white; outermost primaries become white at their apices.

By the end of the **fifth year** the bird attains its fully adult plumage, the wing-coverts being the last to lose the brown mottlings.

Distribution: Resident on the Northern and Western European coasts; also found upon the Eastern Nearctic shores.

Habitat: The sea-coast.

LESSER BLACK-BACKED GULL.

Larus fuscus *Linn.*

Adult (Summer): *Back* and wing-coverts *dark slate-grey;*

innermost secondaries and longest scapulars tipped with white; primaries nearly black with white tips; the longest with a subterminal white spot also; rest of plumage pure white; bill as in *L. argentatus; legs and feet bright yellow;* irides pale yellow. *Length 18·5 to 23 inches;* culmen 1·8; wing 15·75 to 16·25; tail 5·75 to 6; tarsus 2·25.

Adult (Winter): Head and neck streaked with dusky-brown.

Young: "Very similar in plumage to the immature Herring Gull, but the general tint of the upper parts is darker, the primaries are of a nearly uniform black, and the tail is black with white mottlings only on the upper parts, and on the outer feathers on each side. With increasing age this dark band breaks up and finally disappears. The legs and feet, which are first light brown, very soon assume a yellowish tinge. This species takes three years in arriving at its adult plumage, and breeds when all but four years old" (Saunders).

Distribution: Inhabits the more temperate coasts of the Western Palearctic region, migrating in autumn to the south as far as the Mediterranean and Western Africa. Resident also in Egypt and on the Red Sea.

Habitat: The sea-coast, sometimes wandering further inland.

SLENDER-BILLED GULL.

Larus gelastes *Licht.*

Adult (Summer): Back and wings delicate grey; *major part of first four primaries white;* outer web of first, inner margin of first four, and *ends of all, black;* rest of plumage pure white; the under parts shaded with pink; *bill slender, coral-red;* legs, feet, and edges of eyelids coral-red; irides pale yellow. Length 16 inches; culmen 1·6; *wing 11·5 to 12;* tail 4·5; tarsus 1·9 to 2·1.

Adult (Winter): Bill orange-yellow; legs lemon-yellow, otherwise as in summer.

Young (Winter): "Differs from the adult in having rather more black on the primaries, in lacking the rosy tinge on the breast, in having the crown and nape marked with grey, and the back, inner secondaries, scapulars, and wing-coverts

marked with ashy-brown, and the tail with a terminal blackish band" (Dresser).

Distribution: Inhabits the Mediterranean, breeding on south coast of Spain, at the mouth of the Rhone, in the Black Sea, Egypt, &c. Ranges eastward into Scinde and southward on the Western African coast to Senegal.

Habitat: The sea-coast, seldom flying far inland.

AUDOUIN'S GULL.

Larus audouini *Payr.*

Adult (Summer): "Back and entire mantle pale French-grey or pearl-grey; *first two primaries black, with a large white spot at the tip;* remainder French-grey, black towards the tip, and tipped with white; rest of the plumage pure white, the under parts sometimes with a faint rosy tinge; legs and feet dark lead-grey; claws black; bill coral-red, with a black band at the tip; iris hazel, edge of the eyelids coral-red. Total length about 20 inches; culmen 2·35; *wing 15·7;* tail 6·5; tarsus 2·4" (Dresser).

Adult Female (Summer): "Undistinguishable in plumage from the male" (Dresser).

Young of the year: Plumage generally washed with several tints of grey and brown; mantle brown, irregularly spotted with clear brown and reddish; tail more or less speckled with black and brown (Degland).

Distribution: Inhabits the Mediterranean region, especially about the western islands and coast of Africa.

Habitat: The sea-coast, seldom found far inland.

MEDITERRANEAN OR YELLOW-LEGGED HERRING GULL.

Larus cachinnans *Pall.*

Adult: Differs only from *L. argentatus* by its darker mantle, *yellow legs and feet*, and the deep orange-red ring round the outside of the eye (Saunders). Length 22 to 26 inches; culmen 2·4; wing 17 to 18·5; tail 7·7; tarsus 2·75.

Young: Probably undistinguishable from the young of *L. argentatus*, except that the legs are said to be flesh-coloured.

Distribution: "Resident in the Mediterranean and Black Seas, and ranges eastward through the Caspian and Aral Seas to Lake Baikal and the valley of the Amoor" (Seebohm).

Habitat: The sea-coast, and inland lakes and rivers.

SIBERIAN HERRING GULL.

Larus affinis *Reinh.*

Adult (Summer): Resembles *L. fuscus*, but has a much paler mantle, has a proportionately smaller foot than either *L. argentatus* or *L. cachinnans*, but larger than *L. fuscus*. From the last it may also be distinguished by its larger size and the distinct "pattern" of the outer primaries, the grey wedge being quite marked on this species, whilst it is absent in the outer feather of *L. fuscus; bill, legs and feet yellow. Length about 20 inches;* culmen 2·75; wing 17·4; tail 7; tarsus 2·8.

Young: "Resembles the young of *Larus fuscus*, but is rather paler and more marked" (Dresser).

Distribution: "Breeds in the Arctic regions of Siberia, from the White Sea to Behring's Straits, across which it ranges into Alaska, passes through the Caspian on migration, and winters in the Arabian Sea" (Seebohm).

Habitat: The sea-coast as well as inland waters.

GREATER BLACK-BACKED GULL.

Larus marinus *Linn.*

Adult (Summer): Closely resembles *L. fuscus*, but may be distinguished from that species by its larger size, in having a distinct wedge on the third and fourth primaries, and in having the *legs and feet flesh-colour. Length 30 inches;* culmen 2·75; wing 20; tail 9; tarsus 3. Female rather smaller.

Adult (Winter): As in *L. fuscus*, the head and neck are spotted and striated with brown.

Young: "The young birds in their stages to maturity resemble the young of the Lesser Black-backed and Herring

Gulls, but are always much larger, their legs are paler in colour, and the light and dark markings of the plumage are more sharply defined than in the Herring Gull, with which alone they can possibly be confounded" (Saunders).

Distribution: Breeds in northern and temperate Europe, passing southward in winter to the Mediterranean as far as Greece and the Canaries. Breeds also in Greenland and Labrador, ranging as far south as Florida in winter.

Habitat: The sea-coast almost exclusively.

GLAUCOUS GULL.

Larus glaucus *Fabr.*

Adult (Summer): *Entire plumage white, washed on back and wing-coverts with pale grey;* bill yellow, orange-red at the angle beneath; legs and feet pinkish flesh-colour; irides pale yellow. *Length 32 inches;* culmen 2·5; wing 19; tail 8·5; tarsus 2·8. Females often considerably smaller.

Adult (Winter): Similar, but has the head and neck streaked with ashy-grey.

Young: Above whitish, mixed with dull brown; scapulars, innermost secondaries and tail-coverts transversely barred with pale brown, primaries and secondaries uniform pale yellowish-grey, tail yellowish-brown; wings not reaching beyond end of tail; beneath dull white, more or less mottled with dull brown, the abdomen chiefly greyish-brown, bill pale brown, horn-coloured towards the point.

Before the final moult into adult plumage an intermediate dress is assumed of entirely creamy-white or white.

Distribution: Inhabits the Circumpolar region, seldom breeding south of the Arctic Circle, wanders southward in winter occasionally as far as the Mediterranean, to Japan, and to Long Island, in North America.

Habitat: The sea-coast.

ICELAND GULL.

Larus leucopterus *Faber.*

Adult: Closely resembles *L. glaucus*, but may be distinguished from that species by its slightly smaller size, *slenderer*

build, longer legs and proportionately longer wings, which latter extend considerably beyond the tips of the tail-feathers. Length 22 inches; culmen 2·5; wing 16 to 17; tail 7·6; tarsus 2·5.

Young: Like adults, are mainly recognisable by their proportionally longer wings than in young of *L. glaucus*.

Distribution: Breeds in Alaska and within the Arctic Circle from Greenland to Behring Straits. Straggles southward in autumn and winter as far as the coast of France.

Habitat: The sea-coast.

Genus PAGOPHILA.

IVORY GULL.

Pagophila eburnea (*Phipps*).

Adult (Summer): *Entire plumage pure white;* bill yellow, greenish-grey at base; *legs* and feet *black;* irides dark brown. Length 16 to 18 inches; culmen 1·4; wing 13; tail 6; tarsus 1·4.

Young in first plumage: Are said to be of an almost uniform ash-grey.

A young female before us, shot in January, has the base of the bill and upper throat clouded or mottled with greyish-black; shoulders, scapulars and some of wing-coverts with terminal blackish spots; longest primaries broadly tipped with white; bill horn-coloured at base, whitish towards tip; otherwise white as in adult.

Distribution: Inhabits the Circumpolar regions; of casual occurrence during autumn or winter south of the Arctic Circle.

Habitat: The sea-coast, never penetrating far inland.

Genus RISSA.

KITTIWAKE.

Rissa tridactyla (*Linn.*).

Adult (Summer): *Back* and wings *slate-grey*, secondaries

tipped with white, outermost primary with the outer web and tip black; innermost ones grey; the rest either black-tipped or subterminally black; rest of plumage pure white; bill yellow; legs and feet blackish; irides dark brown. *Length 15·5 to 16 inches;* culmen 1·4; wing 12 to 12·5; tail 5·5; tarsus 1·3; *hind toe absent or only rudimentary.*

Adult (Winter): Hind neck slate-grey; nape, top of head and ear-coverts streaked with dark grey.

Immature Birds (January): Feathers in front of eye and ear-coverts dusky-grey; lower neck behind, carpal joint and lesser wing-coverts conspicuously marked with black; edge of wing and outer webs of longer primaries black; outermost tail-feathers all white, next pair with a blackish spot on tip of inner web; rest of tail-feathers broadly tipped with blackish; tail distinctly forked; bill nearly black. Older birds lose the blackish neck-band, and retain merely a few spots about the lesser wing-coverts.

Distribution: Breeds in Arctic and Sub-arctic Europe including the British Isles, also on the Siberian coast and in Arctic North America. Occurs during winter down to the Mediterranean, the Canaries and Bermuda.

Habitat: The sea-coast: marine cliffs.

Sub-family STERCORARIINÆ.

Genus STERCORARIUS.

GREAT SKUA.

Stercorarius catarrhactes *Linn.*

Adult: *Prevailing colour dark brown, somewhat lighter beneath;* nape and back streaked with reddish-brown, or margined and streaked with greyish-white; primaries blackish, white at bases; axillaries sooty; *bill (hooked at tip),* cere, legs and feet black; irides dark brown. *Length 22 to 25 inches;* culmen 1·75 to 2; wing 16; tail 7; tarsus 2·6.

Young: Appear to resemble adults closely but are more narrowly marked above with chestnut.

Distribution: Breeds in Iceland, the Faroes and Shetlands, also to the north of Hudson's Straits. Wanders in

winter along the Western European coasts down to Gibraltar, and in America as far south as New England.

Habitat: The sea-coast, breeding inland on high moors.

POMATORHINE SKUA.

Stercorarius pomatorhinus (*Temm.*).

Adult: Crown, back, wings, scapulars and tail dark brown; *two central rectrices four inches longer than the rest and twisted upwards;* neck and most of under parts white; feathers of former washed with golden-yellow; *across the chest a band of sooty-brown* mottlings, which in extremely old birds entirely disappears; some *markings on* sides of body, *lower abdomen* and under tail-coverts *sooty-brown;* bill dark horn, black at tip; legs and feet black; irides brown. *Length 21 inches;* culmen 1·55; wing 14·25 to 15; tail 8·75; tarsus 2·1.

Young: Above entirely brown, most of feathers tipped with wood-brown; central tail-feathers little elongated, shafts of primaries and a large portion of inner webs white; beneath closely marked with dusky- and wood-brown alternately: bill greenish-brown at base; legs and basal portion of feet yellow, anterior portions of toes black.

Distribution: Breeds in Asiatic Siberia, Alaska, and across Arctic North America to Greenland. An autumn visitant to the more northerly coasts of Europe. Has occurred during winter as far south as Australia, Southern Africa and Peru.

Habitat: The sea-coast, breeding on the "tundras."

Note.—A dark form is sometimes met with which is almost uniform dark brown both above and beneath, but shows the golden colour about the neck as in the commoner form.

RICHARDSON'S SKUA.

Stercorarius crepidatus (*Banks*).

Adult: Upper parts generally slaty-grey; neck washed with yellow; *central tail-feathers much elongated* (about three inches

beyond rest of primaries) ; *shafts of all primary feathers white ; beneath white*, shaded on sides of body, lower abdomen and under tail-coverts with brownish-grey ; bill slate-grey, black at tip ; legs and feet black ; irides hazel. Length 20 to 21 inches ; culmen 1·2 ; *wing 13 to 13·75 ;* tail 8·9 ; tarsus 1·75.

Adult (dark form) : Plumage almost uniform sooty-brown throughout, a trifle paler beneath ; neck-feathers washed with yellowish.

Young after first moult : Top of head and neck pale brown streaked with dark brown ; rest of upper parts dark brown ; most of the feathers tipped with whitish- or wood-brown ; shafts of primaries white as in adults, beneath dull wood-brown, mottled and transversely barred with umber-brown ; basal portion of feet yellow, otherwise black.

Immature Birds : May always be distinguished from those of *S. parasiticus* by their uniformly white primary shafts and black legs.

Distribution : Breeds in the Arctic and Sub-Arctic regions of both hemispheres (in Europe down to the Orkneys). Frequents the European and African coasts in winter, and has occurred as far south as New Zealand and in the South Atlantic to Rio de Janeiro.

Habitat : The sea-coast, or moors in the neighbourhood.

BUFFON'S SKUA.

Stercorarius parasiticus (*Linn.*).

Adult : Crown and nape blackish ; neck white, washed with yellow ; upper parts generally slaty-grey : *central tail-feathers 9 inches longer than the others ; shafts of outermost pair of primaries only pure white ;* beneath white, shading into dull grey on sides of body and lower abdomen ; throat washed with yellow ; bill brownish at base ; black at tip ; *legs yellowish-olive ;* feet black ; irides brown. Length 21 to 22 inches ; culmen 1·15 ; *wing 11·75 to 12 ;* tail 13 ; tarsus 1·5.

Young : Closely resemble the young of *S. crepidatus*, but may always be distinguished by their pale legs and dusky inner primary shafts.

Distribution: Breeds in the Circumpolar regions and down to the Dovrefjeld in Norway, not however in Iceland. Ranges southward on migration to the Mediterranean and the coasts of South America, as far as N. lat. 40°.

Habitat: Similar to that of *S. crepidatus*.

Order TUBINARES.

Family PROCELLARIIDÆ.

Genus PROCELLARIA.

STORMY PETREL.

Procellaria pelagica *Linn.*

Adult: *Plumage generally sooty-black*, paler beneath, *rump white;* a band across the wing whitish; bases of under tail-coverts and sides of crissum white; bill, legs and feet black; irides brown. *Length 5·5 inches;* culmen 0·5; wing 4·6; tail 2·2; tarsus 0·8.

Young: Similar to adults, but show less white on the wings and at sides of crissum.

Distribution: Inhabits the North Atlantic, breeding upon its eastern shores, also in the Mediterranean, also frequents the Norwegian coast and occurs in winter throughout the South Atlantic.

Habitat: Strictly oceanic.

LEACH'S OR FORK-TAILED PETREL.

Procellaria leucorrhoa *Vieill.*

Adult: Plumage generally sooty-brown; upper tail-coverts and some of under ones white; *tail deeply forked; smaller wing-coverts and some of secondaries brownish-grey;* bill, legs and feet black; irides brown. *Length 7·25 to 7·5 inches;* culmen 0·65; wing 6; tail 3·4; tarsus 0·95.

Young: Probably closely resemble adults.

Distribution: Breeds on St. Kilda and the outer Hebrides.

Common in America from Labrador to the Bay of Fundy, occurring southward to Virginia in winter. Breeds in the Northern Pacific. Winter visitant to England and other European countries.

Habitat: Similar to that of *P. pelagica*.

Genus OCEANITES.

WILSON'S PETREL.

Oceanites oceanicus (*Kuhl.*).

Adult: Plumage sooty-black with a greyish tinge beneath; upper tail-coverts and some of flank-feathers pure white; *tail almost square;* bill black; basal portion of feet membranes yellow, otherwise black. *Length 6·5 to 7 inches;* culmen 0·45; wing 6; tail 2·75; *tarsus 1·25.*

Young: Probably closely resemble adults.

Distribution: Inhabits the Atlantic and Southern Pacific Oceans, occurring not unfrequently on European coasts including those of the English Channel.

Habitat: Strictly oceanic.

Genus PUFFINUS.

MANX SHEARWATER.

Puffinus anglorum (*Temm.*).

Adult: *Above nearly black; beneath pure white;* sides of head and neck *pencilled with greyish-black* and white; bill brownish-black above, beneath bluish; legs and feet yellowish flesh-colour; irides brown. *Length 14 inches;* culmen 1·4; wing 9·25; tail 3·25; tarsus 1·65.

Young: Are considerably browner above, and sides of body beneath more washed with greyish-black.

Distribution: Resident in the Atlantic Ocean down to the Canaries, also in the North Sea. Breeds in large numbers in South-western Iceland, the Faroes, Channel Islands, &c.

Habitat: Strictly oceanic.

MEDITERRANEAN SHEARWATER.

Puffinus kuhli (*Boie*).

Adult : "Crown, nape and hind neck cinereous-brown, becoming paler and greyer on the sides of the head and of the neck; back, rump, and upper tail-coverts similarly coloured, but the feathers are margined with pale brownish-cinereous; primary-quills blackish; secondaries, scapulars, and wing-coverts dark brown, the latter with lighter margins; tail dark brown, darker towards the tip; under parts pure white; bill livid yellowish, becoming dark brownish-horn at the point; *legs livid yellowish;* iris dark brown. *Total length about 18 inches;* culmen 2·8; wing 13·6; tail 5·6; tarsus 2·1" (Dresser).

Young : "Upper parts deeper in colour than the adult, and the under parts less pure white in coloration; beak dark horn; legs livid bluish" (Dresser).

Distribution : Resident in the Mediterranean and on the coasts of Madeira and the Canary Islands.

Habitat : Similar to that of *P. anglorum.*

GREATER SHEARWATER.

Puffinus major *Faber.*

Adult : *Above ashy-grey*, with paler margins to most of the feathers, neck white nearly all round; wings and tail nearly black; *beneath white*, less pure towards the vent, where it is slightly marked with greyish-brown; bill dark horn-colour; legs and toes brown; webs yellowish flesh-colour; irides dark brown. *Length 18 to 19 inches;* culmen 1·8; wing 12·5 to 13; tail 4·7; tarsus 2·2.

Distribution : Inhabits the Atlantic Ocean. Of irregular occurrence on the British coasts in autumn. Has occurred on Heligoland.

Habitat : Similar to that of *P. anglorum.*

SOOTY SHEARWATER.

Puffinus griseus (*Gmel.*).

Adult : *Above sooty-brown*, with pale margins to feathers of

back, scapulars and wing-coverts; wings and tail blackish; *beneath greyish-brown*, shading into *nearly white on chin*, many of the feathers having obscure pale margins; bill blackish-horn; outer portion of tarsus and outer toes dark brown; rest of tarsus, inner toes and webs brownish-ochreous; irides dark brown. *Length 16 to 20 inches;* culmen 1·6 to 1·75; wing 12; tail 3·75 to 4·25; tarsus 2·2.

Distribution: Inhabits the Atlantic and Pacific Oceans, breeding in the Southern Hemisphere. Not unfrequent in its occurrence during autumn upon European coasts, including those of the British Isles.

Habitat: Oceanic, like the preceding.

Genus FULMARUS

FULMAR PETREL.

Fulmarus glacialis (*Linn.*).

Adult: *Head*, neck *and under parts white*, or tinged with buff; primaries slate-grey; a spot before the eye dusky; plumage otherwise (including *tail*) *pearl-grey;* bill chiefly greenish-yellow; legs and feet pale grey (yellowish after death); irides dark brown. *Length 19 to 20 inches;* culmen 1·8; wing 12 to 13; tarsus 2.

Young in first plumage: Closely resemble adults.

Distribution: A casual autumn and winter visitant to temperate Europe from the North Atlantic, except some of islands off north-west coast of Scotland, where it breeds.

Habitat: Strictly oceanic.

Note.—A dark form frequently occurs, in which the prevailing colour of the plumage is ashy-brown, paler beneath.

Order ALCÆ.

Family ALCIDÆ.

Genus ALCA.

RAZORBILL.

Alca torda *Linn.*

Adult (Summer): Head, throat and *upper parts black*, in parts slightly tinged with green, browner on wings and tail; under parts below the throat, *tips of secondaries*, and a narrow *line from top of bill to the eye pure white; bill black, crossed* in the centre of each side *by a white band;* legs and feet nearly black; irides hazel-brown. Length 17 inches; culmen 1·45; wing 7·5 to 7·75; tarsus 1·2.

Adult (Winter): Chin and throat white; above browner.

Young: Have much less elevated bills, are browner above and have the white tips to the secondaries less pure; white stripe before the eyes almost obsolete.

Distribution: Inhabits most of the coasts of the Palearctic and Nearctic regions.

Habitat: Strictly oceanic.

Genus URIA.

COMMON GUILLEMOT.

Uria troile (*Linn.*).

Adult (Summer): *Head, neck and upper parts blackish-brown*, with a slaty tinge on the back; *under parts below throat*, and tips of secondaries *white; bill almost uniform black;* legs and feet olivaceous-brown; irides hazel-brown. Length 17·5 inches; culmen 1·9; wing 7·5; tarsus 1·4.

Adult (Winter): Under parts, chin, throat and sides of

head, with exception of an elongated patch behind the eye, pure white.

Young: May be most readily distinguished by their shorter bills and paler legs. The white parts also are less pure.

Distribution: Inhabits the northern coasts of Europe and the North Atlantic.

Habitat: Strictly oceanic.

Note.—Very old birds retain their summer plumage throughout the whole year.

A Guillemot known as the Ringed or Silver-eyed Guillemot also inhabits European coasts. It is distinguished by having a pure white streak behind the eye on the side of the head, and also a white ring round the eye.

BLACK GUILLEMOT.

Uria grylle (*Linn.*).

Adult (Summer): Basal portion of primaries, *greater and median wing-coverts* and axillaries *white;* plumage otherwise *sooty-black;* bill black (inside of mouth orange); legs and feet vermilion; irides brown. *Length 12 to 14 inches;* culmen 1·2; wing 6·5; tarsus 1·15.

Adult (Winter): Upper parts black, copiously barred and speckled with white; rump nearly all white; wings and tail as in summer; under parts pure white.

Young: Are recognisable by having more brown about the head and neck; white wing patch streaked with brown.

Distribution: Inhabits Northern and Arctic Europe, breeding as far south as the Baltic, Scotland and Ireland. Also inhabits the Atlantic coast of North America. During winter occasionally found as far south as the English Channel.

Habitat: Similar to that of *U. troile.*

Note—A form known as *U. mandti* (Spitzbergen Guillemot), inhabiting the Eastern Arctic Ocean, differs from the type in having "a more slender bill, and the feathers which form the wing-spot are pure white without any black."

BRÜNNICH'S GUILLEMOT.

Uria bruennichi (*Sab.*).

Adult: Closely resembles *U. troile* both in plumage and

habits, but is distinguishable by the *bill* which is *very short and thick* and the *upper mandible, horn-coloured at the base.* Length 16·5 to 18 inches; culmen 1·3, greatest depth about 0·6; wing 8·5; tarsus 1·5.

Distribution: Inhabits the Circumpolar regions, occurring as far south as the North Sea coasts very occasionally during winter.

Habitat: Similar to that of *U. troile.*

Genus MERGULUS.

LITTLE AUK.

Merculus alle (*Linn.*).

Adult (Summer): A spot over either eye, *margins of some scapulars*, tips of secondaries and under parts below chest *white*, otherwise black; bill black; legs and feet brownish flesh-colour; irides hazel. Length 8 inches; culmen 0·6; *wing 4·75;* tarsus 0·8.

Adult Winter: Throat and chest white, otherwise much as in summer.

Young: Are browner than adults and lack the white over the eye and on scapulars.

Distribution: Breeds in Greenland, on Grimsey Island (Iceland), in Novaya Zemlya and Spitzbergen. Occurs southward in winter to the North Sea and westward to the Canaries and down to New Jersey.

Habitat: Strictly oceanic.

Genus FRATERCULA.

PUFFIN.

Fratercula arctica (*Linn.*).

Adult (Summer): *Upper parts and a broad collar black*, browner on the wings and crown; face and chin white, shaded with ashy-grey; rest of *under parts white*; *bill higher than long, slate-blue, ridged across with orange*; legs and feet orange;

naked skin at gape yellow; eyelids orange; irides grey. Length 11 to 12 inches; culmen 1·7; height of bill at base 1·5; *wing 6;* tarsus 1·1. Bill of female slightly smaller than that of the male.

Adult (Winter): Bill smaller and less conspicuous in colour, the basal sheath having been shed in autumn.

Young: Differ from adults in having the cheeks much more suffused with grey; lores smoky-grey; bill about half the depth of adults—brownish.

Distribution: Breeds in suitable localities on the coasts of North-western Europe and Eastern North America.

Habitat: Sea cliffs and rocky islets.

Note.—On Spitzbergen a larger race distinguished by some under the name of *F. glacialis* occurs.

Order PYGOPODES.

Family COLYMBIDÆ.

Genus COLYMBUS.

GREAT NORTHERN DIVER.

Colymbus glacialis *Linn.*

Adult (Summer): *Head* and neck *velvet-black*, with green and purple reflections; beneath the throat a transverse semilunar white band with black streaks; on lower neck an interrupted broad collar, streaked longitudinally with black and white; *upper parts generally black*, copiously *spotted with white*, most conspicuously on the scapulars; under parts below throat white; bill black, legs and feet blackish, paler on the inside; membranes whitish; irides brown. *Length 32 to 33 inches; culmen 3;* depth of bill at nostril 0·9 to 1; wing 13·5 to 15; tail 3·2; tarsus 3·5.

Adult (Winter): Lacks the black throat-bands.

Young: Upper parts dull brownish-black, some of feathers with light margins and a few white spots on scapulars and wing-coverts; inner webs of wing-quills brownish; tail tipped with grey; under parts white; bill chiefly whitish; legs black, whitish inside; toes black, membranes nearly white.

Distribution: Breeds in North America from Greenland to Alaska and southward to the Great Lakes, also in Iceland. Occurs elsewhere in Europe principally in winter. May possibly have nested in the north of Scotland.

Habitat: The sea-coast, also on fresh waters inland.

WHITE-BILLED NORTHERN DIVER.

Colymbus adamsi (*G. R. Grey*).

Adult: Very nearly resembles *C. glacialis* but is larger, the

head is glossed with green and the lower neck with purple; the white *scapular spots are larger;* the streaks upon the upper throat-band are only six in number, and on the lower one ten; the *bill* is *yellowish-white* at all seasons and deeper.

In the changes of its plumage it does not differ from *C. glacialis.*

Distribution: Inhabits the Circumpolar regions, having occurred in winter as far south as the British Islands and Japan.

Habitat: Similar to that of *C. glacialis.*

BLACK-THROATED DIVER.

Colymbus arcticus *Linn.*

Adult (Summer): *Crown* and nape *greyish-brown;* scapulars with 12 or 13 transverse *white bars;* wing-coverts speckled with white, rump and back otherwise deep black: *throat black*, crossed by a band of black and white streaks: chest and sides of neck longitudinally banded with black and white; under parts below chest white, the flanks black; bill black; legs and feet dark brown; irides crimson. Length 26 inches; *culmen 2·6; depth of bill at nostrils 0·7 to 0·8;* wing 11·5; tarsus 2·9.

Adult (Winter): Closely resembles the last species, but is usually smaller and has a more slender bill.

Young in first plumage: Are smaller than those of *C. glacialis*, otherwise similar.

Distribution: Breeds in Scotland and in North-eastern Europe down to the Baltic. Ranges also across Siberia to the Pacific and to the fur countries of North America. Occurs during winter down to the Mediterranean.

Habitat: Similar to that of *C. glacialis.*

RED-THROATED DIVER.

Colymbus septentrionalis *Linn.*

Adult (Summer): Crown, nape and back of neck longitudinally streaked with black and white; rest of *upper parts dusky-brown*, more or less marked about the back *with oval*

white spots (fewer with age); forehead and sides of head and neck grey; *centre of throat ferruginous;* under parts silvery-white; bill and legs black, the latter tinged with green; inside of toes and centres of membranes yellowish; irides brown. Length 23 to 25 inches; culmen 2; *height of bill at nostrils 0·5;* wing 11 to 11·5; tarsus 2·75.

Adult (Winter): Top of head and hind neck slate-grey, speckled with white; rest of upper parts greyish-brown, spotted with white; wing and tail-quills brown; entire under parts pure white.

Young in first plumage: Are browner above than adults, and the white markings, especially of scapulars and wing-coverts, are lengthened and more conspicuous; sides of head and neck mottled with ashy-grey.

Distribution: Breeds in the Arctic and Sub-arctic regions of Europe (including Scotland), Asia and America, ranging southward in winter to the Mediterranean, Black and Caspian Seas, Formosa and China, and to Maryland in America.

Habitat: Closely resembles that of *C. glacialis.*

Family PODICIPIDIDÆ.

Genus PODICEPS.

GREAT CRESTED GREBE.

Podiceps cristatus (*Linn.*).

Adult Male (Summer): Above sooty-brown, some of back feathers greyish-margined; chin, cheeks and a *streak over the eye white; crown and occipital-tufts greenish-black; neck-frill chestnut, margined behind with black;* across the wings a broad white band; beneath silvery-white, becoming ferruginous upon the flanks; bill dusky, yellowish at base; legs and feet greenish-black, greenish-yellow internally. *Length 21 to 22 inches;* culmen 2; wing 7·25; tarsus 2·2 to 2·5.

Adult Female: Resembles the male very closely, but is somewhat smaller and the occipital-tufts and neck-frill less highly developed.

Adult (Winter): Plumage very much as in summer but with the occipital plumes and neck-frill absent.

Young in first plumage: Are browner on crown and nape, and have reddish-brown streaks on sides of head and neck, otherwise much resemble adults in winter. May be distinguished from young of *C. rubricollis* by their *white eye-stripe.*

Distribution: Resident in most of the central and southern portions of the Palearctic region, ranging southward to Southern Africa, India, Australia, and New Zealand.

Habitat: Strictly a water bird, wintering on the sea-coast, and retiring to large inland lakes to breed.

RED-NECKED GREBE.

Podiceps griseigena *(Bodd.).*

Adult (Summer): Occipital tufts, crown and hind neck black; rest of *upper parts olive-black;* secondaries white; chin and cheeks ashy-grey, shading into white marginally; *fore neck chestnut;* rest of under parts silvery-white, becoming blackish at vent; bill dusky, yellowish at gape; legs dark olive; feet internally dull yellowish. *Length 17·5 to 18 inches;* culmen 1·75; wing 7·25 to 7·75; tarsus 2·2.

Female: Slightly smaller than the male.

Adult (Winter) and Young: Closely resemble similar plumage in *P. cristatus*, but it may be distinguished by their smaller size and absence of white above the eye.

Distribution: Breeds in North-eastern Central Europe, Southern Scandinavia, Russia, from Archangel to the Caspian, and in Asia as far east as Turkestan. Elsewhere in Europe chiefly a winter visitant. Found also in Northern Africa.

Habitat: Like that of *P. cristatus*, but usually frequents smaller sheets of fresh water.

SCLAVONIAN GREBE.

Podiceps auritus *(Linn.).*

Adult Male (Summer): Top of head, chin and neck-ruff

blackish-brown ; superciliary stripe and erectile ear-tufts ochreous-chestnut ; upper parts generally brownish-black, marked with grey ; primaries brown ; secondaries chiefly white ; fore *neck, chest and flanks chestnut ;* rest of under parts silvery-white ; *bill straight*, black, whitish at tip ; irides crimson ; legs and feet olive-green, palest on webs. *Length 12 to 13 inches ;* culmen 0·9 ; wing 5·25 to 5.5 ; tarsus 1·75.

Adult (Winter) and Young : Under parts entirely white ; neck-ruff and ear-tufts wanting.

Distribution : Breeds in Iceland, Scandinavia, and Russia, ranging across Siberia to Japan. Breeds also in the fur countries of North America. Occurs in the British Isles and down to the Mediterranean in winter, and in America as far south as Bermuda.

Habitat : Both fresh-water lakes and the sea-coast, the latter chiefly in winter.

BLACK-NECKED OR EARED GREBE.

Podiceps nigricollis (*C. L. Brehm.*).

Adult (Summer) : Head and neck black, with an olive tint especially on crown ; behind the eye a patch of elongated feathers golden and russet ; back and wings chiefly dark brown ; *last two primaries* and secondaries *white ;* flanks chestnut, rest of under parts silvery-white ; *bill slightly recurved*, black ; legs and feet olive ; irides red, encircled with white. *Length 12 inches ;* culmen 0·9 ; wing 5 to 5·25 ; tarsus 1·6.

Adult (Winter) and Young : Closely resemble the same states of plumage in *P. auritus*, but may be readily distinguished by the slightly recurved bill and white innermost primaries.

Distribution : Breeds in suitable localities throughout most of temperate Europe and Asia, also in Africa, in which country it ranges southward to Cape Colony. Occurs in Great Britain and Southern Scandinavia only on migration.

Habitat : Very similar to that of preceding species.

LITTLE GREBE.

Podiceps fluviatilis (*Tunst.*).

Adult (Summer) : Head, hind neck and *upper parts*

generally *blackish-brown ; secondaries chiefly white ;* ear-coverts and front of neck ferruginous-brown ; under parts otherwise silvery-white, mottled on chest and sides of body with brown ; bill black, horn-coloured at tip ; legs and feet dark olive ; irides brown. *Length 8·5 to 10 inches ;* culmen 0·8 ; wing 4 ; tarsus 1·35.

Adult (Winter) : Chin and upper throat white ; sides of head and fore neck rufous-buff ; chest and flanks brownish-grey ; otherwise much as in summer. Distinguishable from preceding species by its smaller size.

Young : Are browner above and the under mandible is yellow.

Distribution : Resident in most of temperate Europe and Asia, also found in the Malay Archipelago, Northern Australia, Madagascar and Africa.

Habitat : Fresh waters where aquatic plants abound ; occasionally also on the sea-coast

APPENDIX A.

A List of Nearctic (North American) Species which are stated to have occurred in Europe.

American Robin : *Turdus migratorius.*
Hermit Thrush : *Turdus pallasi.*
Olive-backed Thrush : *Turdus swainsoni.*
Wilson's Thrush : *Turdus fuscescens.*
American Pipit : *Anthus ludovicianus.*
Purple Martin : *Hirundo purpurea.*
Red-eyed Flycatcher : *Vireosylvia olivacea.*
White-winged Crossbill : *Loxia leucoptera.*
White-throated Sparrow : *Zonotrictia albicollis.*
Red-winged Starling : *Sturnella magna.* !!!
Rusty Grackle : *Scolecophagus ferrugineus.*
Belted Kingfisher : *Ceryle alcyon.*
Black-billed Cuckoo : *Coccyzus erythropthalmus.*
Yellow-billed Cuckoo : *Coccyzus americanus.*
Hairy Woodpecker : *Picus villosus.*
Downy Woodpecker : *Picus pubescens.*
American Hawk Owl : *Surnia funerea.*
Mottled Owl : *Scops asio.*
Swallow-tailed Kite : *Nauclerus furcatus.*
American Goshawk : *Astur atricapillus.*
Red-shouldered Hawk : *Buteo lineatus.*
American Kestrel : *Falco sparverius.*
Passenger Pigeon : *Ectopistes migratorius.*
American Golden Plover : *Charadrius virginicus.*
Killdeer Plover : *Ægialitis vocifera.*
Wilson's Snipe : *Gallinago wilsoni.*
Red-crested Snipe : *Macrorhamphus griseus.*

Semipalmated Sandpiper : *Ereunetes pusillus.*
Pectoral Sandpiper : *Tringa maculata.*
Bonaparte's Sandpiper : *Tringa fuscicollis.*
Yellow Shank : *Totanus flavipes.*
Solitary Sandpiper : *Totanus solitarius.*
Spotted Sandpiper : *Tringoides macularius.*
Buff-breasted Sandpiper : *Tringites rufescens.*
Bartram's Sandpiper : *Bartramia longicauda.*
Hudsonian Curlew : *Numenius hudsonicus.*
Esquimaux Curlew : *Numenius borealis.*
American Bittern : *Botaurus lentiginosus.*
Trumpeter Swan : *Cygnus buccinator.*
Cassin's Snow Goose : *Chen albatus.*
American Wigeon : *Anas americana.*
American Green-winged Teal : *Anas carolinensis.*
Blue-winged Teal : *Anas discors.*
Lesser Scaup Duck : *Fuligula affinis.*
Ring-necked Duck : *Fuligula collaris.*
Buffel-headed Duck : *Fuligula albeola.*
Surf Scoter : *Œdemia perspicillata.*
Hooded Merganser : *Mergus cucullatus.*
Capped Petrel : *Æstrelata hesitata.*
Bulwer's Petrel : *Bulweria columbina.*
Laughing Gull : *Larus atricilla.*
Bonaparte's Gull : *Larus philadelphia.*
Sooty Tern : *Sterna fuliginosa.*
Smaller Sooty Tern : *Sterna anæstheta.*
Noddy : *Anous stolidus.*

APPENDIX B.

A List of Asiatic and African Species which are stated to have occurred in Europe.

Red-throated Thrush : *Turdus ruficollis.*
Indian Redstart : *Ruticilla rufiventris.*
Pied Chat : *Saxicola lugens.*
White-tailed Stonechat : *Pratincola hemprichi.*
Ruby-throated Warbler : *Calliope camtschatkensis.*
Red-flanked Blue-tail : *Nemura cyanura.*
Bowman's Warbler : *Sylvia momus.*
Bright Green Tree Warbler : *Phylloscopus nitidus.*
Greenish Tree Warbler : *Phylloscopus viridanus.*
Pallas's Warbler : *Locustella certhiola.*
Dusky Bulbul : *Pycnonotus barbatus.*
Palestine Bulbul : *Pycnonotus xanthopygus.*
Gold-vented Bulbul : *Pycnonotus capensis.*
Isabelline Shrike : *Lanius isabellinus.*
Hooded Shrike : *Telephonus erythropterus.*
Chestnut-bellied Swallow : *Hirundo savignii.*
Algerian Chaffinch : *Fringilla spodiogena.*
Trumpeter Bullfinch : *Erythrospiza githaginea.*
Crimson-winged Finch : *Erythrospiza sanguinea.*
Strickland's Bunting : *Emberiza cinerea.*
Chestnut-headed Bunting : *Emberiza luteola.*
Yellow-browed Bunting : *Emberiza chrysophrys.*
Curve-billed Lark : *Certhilauda alaudipes.*
Dupont's Lark : *Certhilauda duponti.*
Desert Lark : *Ammomanes deserti.*
Gould's Desert Lark : *Ammomanes cinctura.*
Lesser Short-toed Lark : *Calandrella minor.*
Algerian Shore Lark : *Otocorys bilopha.*

Purple-winged Starling : *Sturnus purpurescens.*
Brandt's Jay : *Garrulus brandti.*
Needle-tailed Swift : *Acanthyllis caudacuta.*
Egyptian Nightjar : *Caprimulgus ægyptius.*
Philippine Bee-eater : *Merops philippinus.*
Indian Roller : *Coracias indicus.*
Cape Eared Owl : *Asio capensis.*
Southern Little Owl : *Athene glaux.*
Tawny Eagle : *Aquila rapax.*
Egyptian Kite : *Milvus ægyptius.*
Lesser Peregrine : *Falco minor.*
Barbary Falcon : *Falco barbarus.*
Black-necked Heron : *Ardea melanocephala.*
Spur-winged Goose : *Plectropterus gambensis.*
Egyptian Goose : *Chenalopex ægyptiacus.*
Baikal Teal : *Anas formosa.*
Falcated Teal : *Anas falcata.*
Asiatic Turtle Dove : *Turtur orientalis.*
Egyptian Turtle Dove : *Turtur senegalensis.*
Francolin : *Francolinus vulgaris.*
Green-backed Gallinule : *Porphyrio smaragnotus.*
Allen's Gallinule : *Porphyrio alleni.*
Balearic Crane : *Balearica pavonina.*
Eastern Golden Plover : *Charadrius fulvus.*
Caspian Plover : *Ægialitis asiatica.*
Black-headed Plover : *Pluvianus ægyptius.*
White-tailed Lapwing : *Chettusia leucura.*
Spur-winged Plover : *Hoplopterus spinosus.*
Cape Pigeon : *Daption capense.*

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